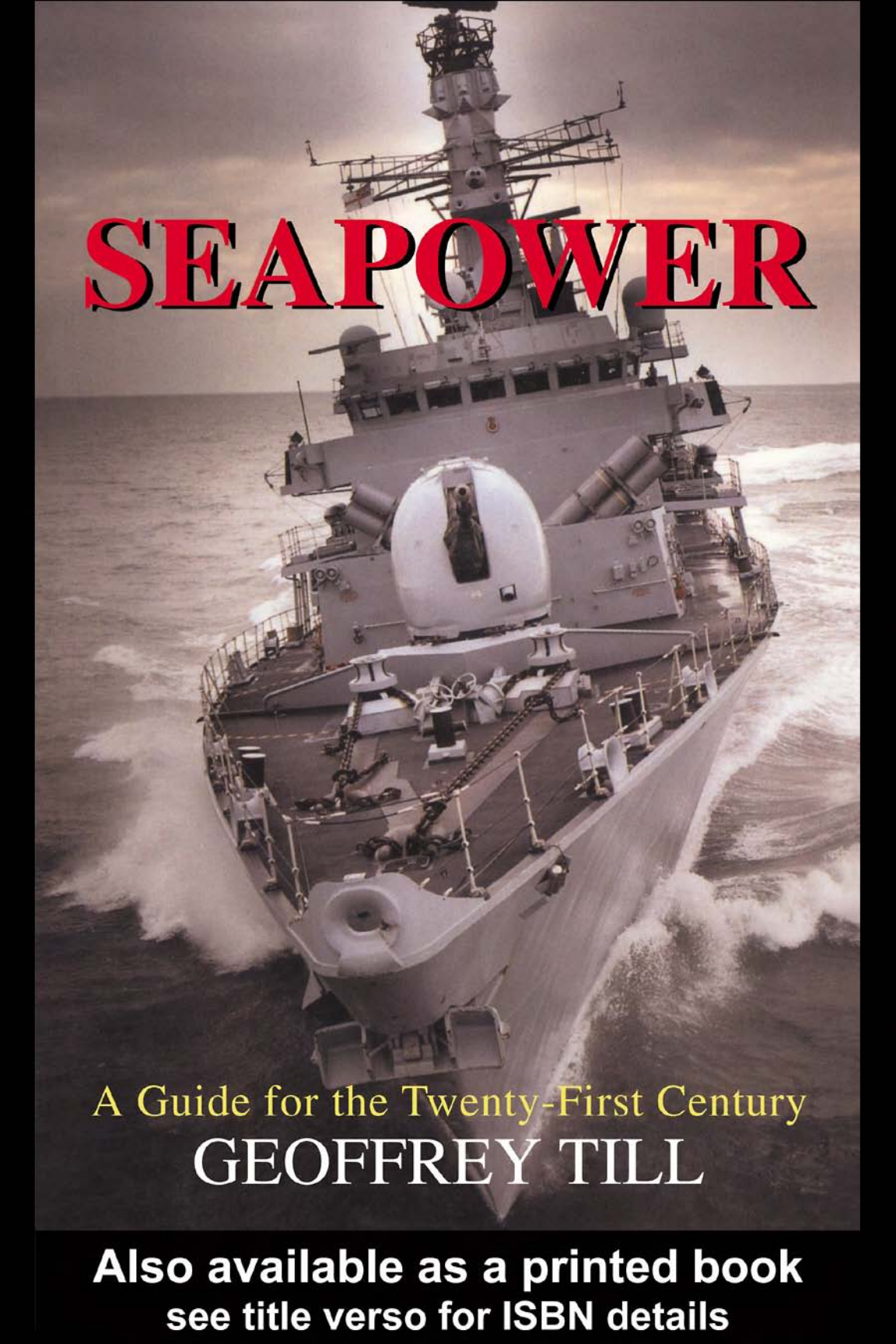


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SEAPOWER

A Guide for the Twenty-First Century

GEOFFREY TILL

UK Joint Services Command and Staff College



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Preface

‘Our navy is addressed, our power collected.’

Shakespeare, *Henry IV*, Pt 2, IV/4

These days, King Henry’s calm assurance that all is certain in the naval world rings quite strangely. While at the beginning of the twenty-first century, much has remained the same, a lot has changed. And what has changed seems likely to affect the functions, importance and impact of the world’s navies in ways which raise questions about the extent to which they need to adapt, perhaps quite radically, to change their ways, to identify new priorities. This book attempts to explore such matters.

One thing that rapidly became clear is that nothing about navies can be taken in isolation. Like the ocean itself, seapower is ‘all joined up’. For this reason, contemporary concerns need to be put into their overall context-backwards and forwards in terms of time, sideways in terms of geographic area, up and down on the spectrum of naval roles from the military, through the diplomatic to the constabulary and beyond. Seapower in the twenty-first century is a big subject, especially when we try to explore its origins in the Mesolithic era! My hope is that this book will help set the agenda for the seafarers of the twenty-first century and for everyone interested in them. It is intended to spark some thoughts that will help the world’s sailors navigate their way through some quite uncertain waters.

I have found that sailors are inclined to think about the role of navies and their relative place in the scheme of things much more than they are commonly prepared to admit, and I have benefited a very great deal simply from talking to them. Nor is this restricted to Western sailors. I have found that non-Western views, which both confirm and deny the common maritime assumptions of Americans and Europeans, have a great deal to offer. So this is *not* a book just about the US, British and other familiar navies. The problems and opportunities they face have also to be dealt with by all the other navies of the world, in their own way and to their own degree. I have therefore profited enormously from my contact with the officers and students at various naval/staff colleges around the world, especially during the period of a generous research grant from the British Academy, for which I am extremely grateful.

I am particularly indebted to the Commandant, staff (especially Captain Saiful Kabir) and students of the Bangladesh Staff College and the National Defence College, Mirpur, and the Naval College at Chittagong; to the Commandant and staff of the National Defence College Delhi; Commodore G.Theogaraj hosted us on a trip to a seminar held alongside the quite spectacular International Fleet Review in Mumbai in 2001. During

my several visits to India, the following were particularly generous with their time and help: Vice-Admirals (Rtd) I.J.S.Khurana, Suren Govil, G.M.Hiranandani, M.K.Roy, Captain Rajan Vir of the Indian Maritime Foundation (Pune), Commodore C.Uday Bhaskar, Commanders Vijay Sakhuja and P.K.Ghosh and Dr Srikanth Kondapalli of IDSA, Rear-Admiral S.S.Byce (Chief of Staff Western Command, Mumbai), and Rear-Admiral Barry Bharathan (Assistant Chief of the Naval Staff (Air), Delhi). In all this, Brigadier Dick Lambe (Rtd), Brigadier Ian Rees and Group Captain Nick Spiller and their colleagues in the British High Commissions in Delhi and Dhaka helped enormously and made the trips as enjoyable as they were fascinating.

In addition to this, I have gained from many exchanges with the staff and students of the naval/staff colleges of Oman and Kuwait, thanks to a number of gracious liaison officers, particularly Commander Garry Titmus. Chilean perspectives, unsurprisingly, tend to be rather different, given their very distinctive strategic environment, and I am grateful to Admiral Hugo Desformes, the organisers of Exponaval 2002, Captain Charles E.Le May, and to Commanders K.Pugh, J.Cruz and Christian Maza for their help during a visit that came at the very end of my project (just when one doesn't want settling ideas disrupted), but which helped enormously. Many thanks too to Colonel Rollo-Walker at the British Embassy, Santiago and to Commander Mark Whelan RN (Rtd) for making it all possible. In Singapore, I am also much indebted to Professor Malcolm Murfett, Dr Derek da Cunha, Commander P.D.Doyne-Ditmas and, especially, Major Irvin Lim of the RSN.

During the same period I also benefited greatly from several trips to Australia and New Zealand for an antipodean view on things. Dr David Stevens of the Royal Australian Navy's Seapower Centre and Commander Peter Kennerley, then of the Royal New Zealand Navy Museum, went to extraordinary lengths to make my visits to their navies a success, for me at any rate. During these trips I had significant help from a huge number of people. Selecting any out of this splendid company is invidious but the following were outstanding even by Australian/New Zealand standards: Vice-Admiral David Shackleton (RAN), Dr Andrew Forbes, Professor Anthony Bergin, Commodores Sam Bateman, James Goldrick, and Warwick Gately, Captains Peter Jones, Peter Leschen and Jonathan Jones (RAN) and Dr John Reeve. In New Zealand, Vice-Admiral Peter McHaffrie, Dr Peter Cozens and Richard Jackson were particularly generous in their support, while Dr Lance Beath's hospitality and expertise were boundless.

Finally, during the project, I was fortunate in being able to make several trips to the United States, where so much innovative thinking about the future of seapower is going on. Amongst the many who have provided me with real help were, and indeed are, Colonel Gary Anderson and Professor Don Bittner, both formerly of the US Marine Corps, and their colleagues, Captain Peter Swartz and his fellow researchers at the Center for Naval Analyses, Washington, Captain Bruce Stubbs formerly of the US Coast Guard and his colleagues at the Anteon Corporation, Captain Stan Weeks of Science Applications International Corporation, Professor Don Daniel of Georgetown University, Professors John Hattendorf and Thomas Barnett and Captain Robert Rubel of the Naval War College, Newport, Dr Ed Marolda and his colleagues at the Washington Naval Yard, and Captain Sam Tangredi of the National Defense University. All of these gave very freely of their time and their expertise. I was also able to plug in to the views of the

British Defence Community in Washington in some very interesting times, through the good offices of Colonel Mark Spicer, Royal Marines.

Canada's Dr Jim Boutilier has been an enormous help, as has Commander Peter Haydon of the Centre for Foreign Policy Studies, Dalhousie University. Much nearer to home, the naval staff and students of the Dutch Staff College, near Delft, have been universally impressive and interesting over many years.

Nearer still, my own naval students and colleagues (mainly Royal Navy but including many other nationalities as well) at the Royal Naval College, Greenwich and the new Joint Services Command and Staff College have been for many years a constant source of challenge and refreshment. They are not inclined to believe this, but it is true. There are simply too many of them to whom I owe a real debt of gratitude for me to name, but I hope they will take this collective expression of thanks as directed at them personally. I am indebted to them all. I would also like to thank Captain Chris Page, Stephen Prince and their colleagues at the Naval Historical Branch, Ministry of Defence, and Chris Hobson and his colleagues in the magnificent library of the Joint Services Command and Staff College, Shrivenham, for their patience and good humour in dealing with my often arcane enquiries. I am grateful to Rear-Admiral Sir Jeremy Blackham, editor of the *Naval Review* for permission to cite several of the articles it had published.

Of course, I cannot blame any of the above for the views expressed in this book. That is my responsibility. Nor should the views expressed be taken necessarily to represent the views of the Joint Services Command and Staff College, UK (JSCSC) or any other agency of the British government.

Finally, I would like to thank my personal assistant, Mairi Mclean, for her patience in dealing with endless iterations of references and footnotes and for guarding my door when I really needed it. I am grateful to Dave Henderson and my son Christopher for their help with the illustrations; the latter also did the bibliography. My wife, Cherry, and the rest of my family had a lot to put up with, too, especially when the word processor was troublesome or when things got lost. It is probably little consolation, but this book is dedicated to them.

Abbreviations

AAW	anti-air warfare
ACNS	Assistant Chief of the Naval Staff
Adm	Admiral
AEW	airborne early warning
AGI vessel	auxiliary information-gathering vessel
AOR	auxiliary supply ships
ARG	amphibious ready group
ASDIC	Anti-Submarine Detection and Investigation Committee
ASuW	anti-surface warfare
ASW	anti-submarine warfare
ATO	air tasking order
C4I	command, control, communications, computers and information
CAP	combat air patrol
CARAT	Cooperation Afloat Readiness and Training (exercises)
Cdr	Commander
CENTCOM	US Central Command
CINCPAC	US Commander-in-Chief Pacific
CNO	Chief of Naval Operations
CONMAROPS	Concept of Maritime Operations
COTS	commercial off-the-shelf
CSCAP	Council for Security and Cooperation in the Asia-Pacific
DDX	US experimental destroyer programme
DD21	US Navy destroyer programme (replaced by DDX)
EEZ	exclusive economic zone
ERGM	extended range gun munitions
FACs	fast-attack craft
GPS	global positioning system
HMAS	Her Majesty's (Australian) Ship
IMB	International Maritime Bureau
IMO	International Maritime Organisation
INCSEA	'Incidents at Sea' network

INTERFET	International Force East Timor
IOMARC	Indian Ocean Marine Affairs Cooperation
ISL	First Sea Lord (Royal Navy)
IT	information technology
IWCO	Independent Committee of the World Oceans
JFACC	Joint Force Air Component Commander
JFHQ	Joint Force Headquarters
JSF	joint strike fighter
JSTARS	joint surveillance attack radar system
LOS	law of the sea
LPG	liquid propane gas
LPH	landing platform (helicopter)
MARPOL	International Maritime Convention for the Prevention of Pollution by Ships
MCM	mine counter-measures
MIOPS	maritime interception operations
MoD (UK)	Ministry of Defence, United Kingdom
MOOTW	maritime operations other than war
MPA	maritime patrol aircraft
MTB	motor-torpedo-boat
MTR	military technological revolution
NATO	North Atlantic Treaty Organisation
NAVCENT	US Naval Forces Central Command
NCW	network centric warfare
NEO	non-combatant evacuation operation
NGO	non-governmental organisation
NGS	naval gunfire support
NMD	national missile defence
nms	nautical miles
OGD	other government departments
OMFTS	operational manoeuvre from the sea
OMG	Operational Manoeuvre Group
PASSEX	passing exercise
P&I CLUB	protection and indemnity (marine insurance) organisation
PJHQ	Permanent Joint Force Headquarters
PRC	People's Republic of China

PSOs	peace support operations
RAF	Royal Air Force
REA	Rapid Environment Assessment
RIMPAC	Naval Exercise Programme for Countries of the Pacific Rim
RMA	revolution in military affairs
RN	(British) Royal Navy
RNorway	Royal Norwegian Navy
RNZN	Royal New Zealand Navy
ROEs	rules of engagement
Ro-Ro	roll-on roll-off (ferry)
RSN	Royal Singapore Navy
RSTA	reconnaissance, surveillance, targeting and acquisition
Rtd	retired
RUSI	Royal United Services Institute
SACLANT	(NATO's) Supreme Allied Commander Atlantic
SAMs	surface-to-air missiles
SAR	search and rescue
SAS	Special Air Service
SBS	Special Boat Squadron
SCSI	Strategic and Combat Studies Institute
SIGINT	Signals Intelligence
SLOCs	sea lines of communication
SOLAS	safety of life at sea
SOSUS	sound surveillance system
SPE	service protected evacuation
SSBN	ballistic missile firing nuclear-propelled submarine
SSK	diesel-propelled submarine
SSN	nuclear-propelled submarine
STANAVFORLANT	Standing Naval Force Atlantic
STOM	ship to objective manoeuvre
SWATH	small waterplane, twin-hull
TBMD	theatre ballistic missile defence
TLAM	Tomahawk Land-Attack Missile
TMS	<i>The Maritime Strategy</i>
UAV	unmanned aerial vehicle

UNCLOS	United Nations Convention on the Law of the Sea
UNESCO	United Nations Educational, Scientific and Cultural Organisation
USCENTCOM	US Central Command
USCG	US Coast Guard
USCINCCENT	Commander-in-Chief, US Central Command
USMC	United States Marine Corps
UUV	unmanned underwater vehicles
V-STOL	vertical and short take-off and landing
WPNS	Western Pacific Naval Symposium
WTO	World Trade Organisation

Chapter One

The Sea and Seapower

1.1 INTERNATIONAL RELATIONS: COOPERATION AND CONFLICT

Mahan was a realist. Like most maritime strategists, he believed that international politics was basically a struggle over who gets what, when and how. The struggle could be about political influence, economic advantage, resources, values or territory, the contestants were the leaders of traditional nation-states, and military/naval forces their main instruments of policy.

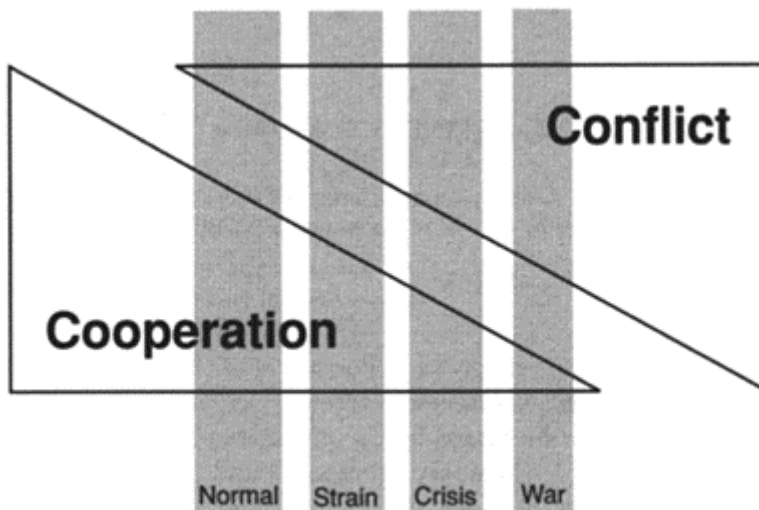


FIGURE 1.1 The Conflict/Cooperation Spectrum

But, if that was the common view at the beginning of the twentieth century, how does international politics work these days—and how might any such changes have affected the role, nature and future of seapower? To understand all this, we need to explore the

notion of competition a little more deeply. Competition implies that the contestants have much in common as well as things that divide them. Their situation can be explained through the analogy of two slabs of cake laid end to end. The first slab represents the cooperative relations between two states, the second the conflictual. This illustrates a spectrum of varying relationships ranging from pure cooperation at one end to pure conflict at the other, although both extremities are highly unusual. In practice, the particular relationship that two states have with each other will normally involve a cut across both slabs of cake.

Of course, this kind of imagery is grossly simplistic; where the cut comes in one dimension of the relationship of two countries (say, trade or the World Cup) may not be the same in another (fishing agreements or the future security architecture for the north-east Pacific). Moreover, the relationship may be changing all the time.

Nevertheless, the notion that there is a spectrum of conflictual and cooperative relations between states, and that most of the time the mixture of the two determines and reflects military and naval behaviour is a useful one to which constant reference will be made in this book. It is one of the keys to a proper understanding of the role of seapower—past, present and future. It applies to the exploitation of the four attributes of the sea soon to be discussed.

1.2 DEFINING SEAPOWER

‘You are absolutely correct, we are victims of our syntax
... some of the things we write in the Navy are not
necessarily understandable.’

Vice-Admiral William Crowe,
Deputy Chief of Naval Operations, US Navy¹

But, first, what is seapower anyway? Perhaps oddly, Mahan himself does not define the word, or words, seapower very explicitly, even though he coined it himself. What he meant by the phrase has largely to be inferred. Such ambiguity is depressingly common and sometimes impedes communication. People use the same words but often seem to mean somewhat different things by them. Others use different words to describe the same things. It is all very confusing and is much lamented by analysts of seapower.²

There seem to be three reasons for the difficulty. The first is purely to do with English semantics, and that is the limits of the words available to describe sea-related things. Some of them are adjectives without nouns (‘maritime’, ‘nautical’, ‘marine’). Others are nouns without adjectives (‘sea’, ‘seapower’). Sometimes there are nouns that have adjectives (‘ocean’—‘oceanic’, ‘navy’—‘naval’) but they tend towards greater specificity. Unfortunately, this semantic awkwardness makes the consistent use of words very difficult.

The second reason is a matter of more substance. The ‘power’ part of the word ‘seapower’ itself has generated enormous attention in academic analysis of international politics. What does ‘power’ actually mean? Some

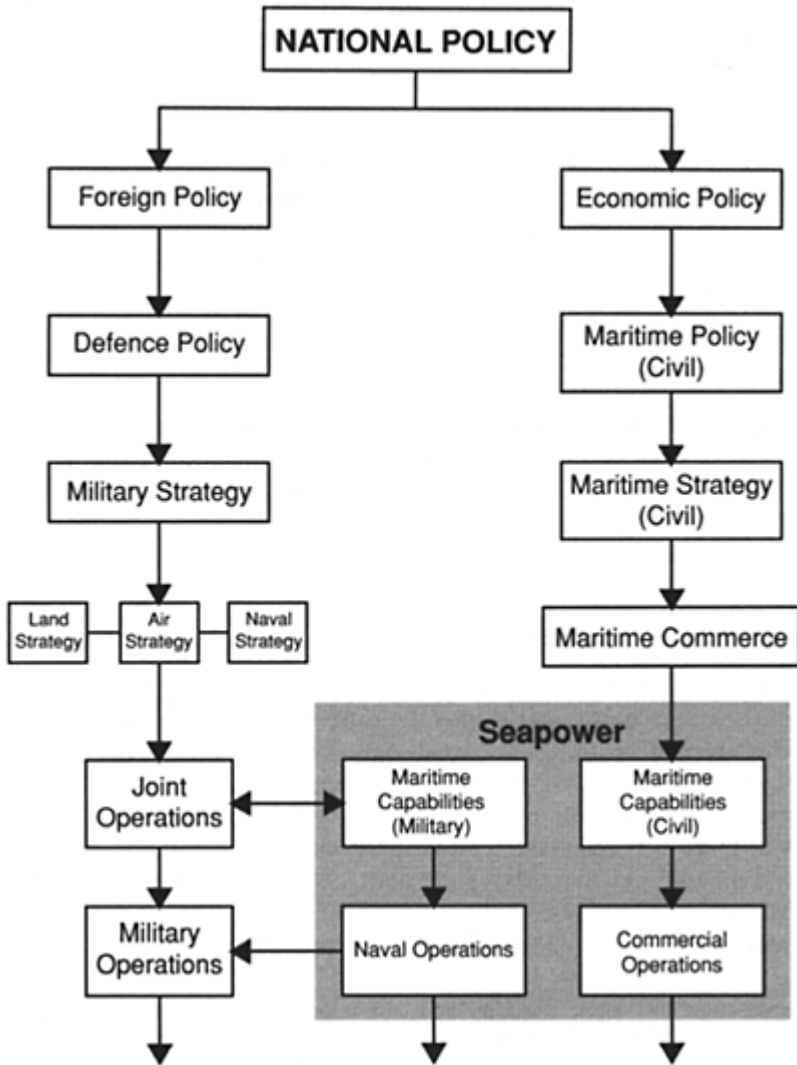


FIGURE 1.2 Seapower: Its Setting

analysts focus on *inputs*—in other words, the characteristics that make countries or people powerful (having military or economic strength, for example). Others concentrate on *outputs*: a country is powerful because others do what it wants. Power can be either potential or consequential, commonly, both! To add to the confusion, power can sometimes be applied specifically to particular countries (the ‘Great Powers’). Not surprisingly, there is a tendency to avoid the word if possible.

Third, people *do* actually mean different things by the labels they use—in the sense that they wish either to include or to exclude various phenomena related to the sea.

‘Maritime’ activity, for example, is sometimes taken to concern only navies, sometimes navies operating in conjunction with the ground and air forces, sometimes navies in the broader context of all activities relating to the commercial, non-military use of the sea, and sometimes inevitably the word ‘maritime’ covers all three possibilities!

As a concept, ‘seapower’ combines all these difficulties. It is something that particular countries, or sea powers (two words), have. It too has to be seen both as an input and as an output.

Seapower as an Input

The obvious inputs are navies, coastguards, the marine or civil-maritime industries broadly defined and, where relevant, the contribution of land and air forces. Figure 1.2 shows some of the constituents of seapower (others will be discussed later) and its place within broader definitions of national power and policy.

Seapower as an Output

Seapower is not simply about what it takes to use the sea (although that is obviously a prerequisite). It is also the capacity to influence the behaviour of other people or things by what one does at or from the sea. This approach defines seapower in terms of its consequences: its outputs, not the inputs; the ends, not the means.

It is, moreover, about the sea-based capacity to determine events both at sea and on land. As that other great master of maritime thought Sir Julian Corbett never tired of saying, the real point of seapower is not so much what happens at sea, but how that influences the outcome of events on land:

Since men live upon the land and not upon the sea, great issues between nations at war have always been decided—except in the rarest cases—either by what your army can do against your enemy’s territory and national life, or else by fear of what the fleet makes it possible for your army to do.³

In recent years, indeed, there has been a marked shift in naval attention from power *at* sea, to power *from* the sea, a point to which we will return.

From this bald summary of the conclusions of Mahan and Corbett, two conclusions can immediately be drawn. First, is the simple point that there is more to seapower than grey-painted ships with numbers on the side. Seapower also embraces the contribution that the other services can make to events at sea, and the contribution that navies can make to events on land or in the air.

Seapower also includes the non-military aspects of sea-use (merchant shipping, fishing, marine insurance, shipbuilding and repair and so on), since these contribute to naval power and since they can also influence the behaviour of other people in their own right.

Second, seapower is a *relative* concept, something that some countries have more than others. The real issue is the matter of degree. Nearly all countries have some seapower. It may be through their naval strength, or their shipbuilding, or their skills in marine

insurance, or their capacity to supply seafarers, or a combination of all of these characteristics and others. But some countries, and this is the point, have more or less than others, and it is that relationship that is strategically significant in peace and in war.

This is a useful conclusion, since it provides a way out of dealing with such futile questions as whether, for example, the Soviet Union was a sea power or not. In the sense described here it certainly was. In the Cold War era, under the astute guidance of Admiral Sergei Gorshkov, it had a first-class navy able to curtail the operations of the US Navy; it had a large merchant marine, one of the world's leading fishing fleets, oceanographic and scientific knowledge about the sea of the first order and an impressive shipbuilding industry. But at the same time the relationship of the Soviet navy to the rest of the armed services was different in kind from that which applied in the United States; its operational focus for purposes of war was on the narrow seas and local seas more than the open oceans. Its strategic thinking was still largely continental. Soviet naval leaders explicitly rejected the notion that they should slavishly follow Western practice and thinking as though that were the only true path to success on the oceans. The Soviet Union was a sea power, but a sea power with a difference.⁴ More generally, most countries will tend to be both sea and land powers, at least to some degree.

The emphasis on the *relative* nature of seapower has important consequences. It follows that the strategic effectiveness of seapower depends importantly on the strengths and weaknesses of those against whom it is exerted. Seapower is therefore often best recognised in the eye of the beholder. Because of this, as Colin Gray shows so eloquently, seapower, in some circumstances, merely enables a conflict to be won by air and ground forces; in others (such as the Pacific campaign against Japan), it was the executive and decisive form of war.⁵

Seeing seapower as a relative concept is also a convenient means of closing down the curiously long-lived misapprehension that it is the exclusive property of a handful of largely Western countries. It is not, and never has been, although some of them have certainly been more maritime than most.

Nor is the capacity to operate decisively at sea *necessarily* a function of size. The experience and the strategic functions of the nineteenth-century navy of Chile, first in dealing with a threat from Spain in the 1860s and then in the conduct of the War of the Pacific (1879–84) with Peru, may have been small-scale when compared with the naval side of the similarly named Pacific campaign 60 years later. But in all other respects, exactly the same processes (the pursuit of battle, attacks on shipping, the support of amphibious operations) were at work.⁶ The same applies to nearly all countries, irrespective of shape, size and period. To some extent, they nearly all are, or were, sea powers.

For all its imperfections and ambiguities it seems best to follow the common practice of using the labels 'maritime power' and 'seapower' interchangeably. Either phrase should be taken to incorporate naval interactions with the civilian/marine dimension on the one hand and with air and ground forces on the other, since all of these can have a major impact on the behaviour of others.

A final advantage of using the word 'seapower', even if in this cautious way, is that it is a reminder of the fact that it is a form of power that derives from the attributes of the sea itself.

1.3 THE SEA: FOUR HISTORIC ATTRIBUTES

Nearly three-quarters of the world is now covered by seawater, much more than used to be the case. Britain only became a group of islands 8,500 years ago. Although already amounting to a huge 350 million square kilometres, ocean coverage could increase markedly in the future. It is already by far our single biggest environment and, in ways that we still do not fully understand, the sea regulates the planet's climate and helps us measure its health. Human life began in the sea and ever since has been dominated by it. It is crucial to our way of life, our very survival as a species.

But it is still a dark, mysterious and dangerous place in which people cannot commonly live—and for the most part decidedly do not want to. Much of it is cold, still largely uncharted, and makes most people sick. Seafarers seem often to live only on the fringe of settled society. The Greek philosopher Diogenes was not sure whether they should be counted amongst the living or the dead. The Bengali word for 'sailor' has strong affinities to that used for 'prisoner'—and so it goes on.⁷

Yet, from earliest times, the sea has been a major focus of mankind's concern. Why is this? Will it continue? And what is the place of navies in all this?

Mankind did not take to the sea for any one single cause but for a variety of reasons that are linked to the four attributes of the sea itself, namely, as a resource, and as a means of transportation, information and of dominion. Each of these four attributes are intimately connected with each other, and each also exhibits the same cooperative and conflictual tendencies characteristic of international relations. Since the sea is so important to human development, neither of these points should come as a surprise. Problems in making the most of these four attributes of the sea largely determine the functions of navies, both directly and indirectly.

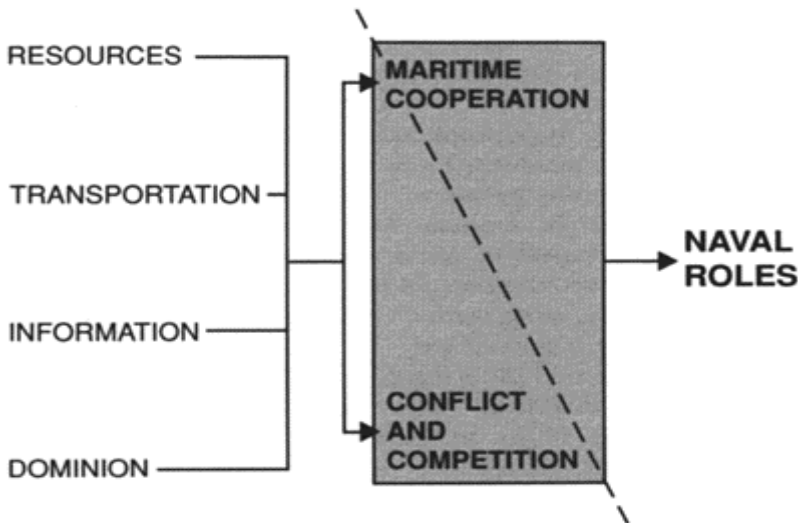


FIGURE 1.3 Responding to the Four Attributes of the Sea

1.4 THE SEA AS A RESOURCE

All around the world, tens of thousands of years ago, mankind began gathering food from the sea, initially in the form of shellfish. From earliest Mesolithic times, in Europe and elsewhere, the sea and the estuaries were seen as 'an unlimited food resource to those with the technology and courage to pursue it in the open sea'. The sophisticated fishhooks and the bones of deep-sea fish like cod, haddock and hake that are frequently found in the rubbish heaps of the coastal communities scattered along Europe's Atlantic fringe from Portugal to Scandinavia show that 7,000 years ago early Europeans were able to venture far enough out to sea to catch deepwater fish sometimes up to 1.5 metres long. In their lightly framed hide-covered boats, such early sailors evidently covered considerable distances in pursuit of their catch. It was dangerous, no doubt, but it was an easier way to get protein than attempting to hunt it, or later grow it, on land. Moreover, the fatty acids to be found in all kinds of sea food were, and are, beneficial to the brain and to human health generally, helping produce better, brighter, healthier people.⁸

The existence of early cemeteries in such settlements, with their evidence of collective and continuous burial, shows that these rich and varied resources encouraged an increase in the population, the adoption of agriculture and more sedentary habits. People operating on the interface between the sea and the land produced a raw human energy which encouraged innovation and development, playing a major part in kick-starting European civilisation. According to Barry Cunliffe,⁹ one of Britain's leading archaeologists, these people also soon manifested a maritime, and in this case an Atlantic, mind-set. From the very beginning then, civilisation was heavily influenced by people who 'faced the ocean'.

This was a global phenomenon. As a source of resources, the sea was crucial to the development of world civilisation—and it remains crucial since mankind still harvests some 20 per cent of its daily protein from the oceans. More recently, other marine resources (especially oil and gas) have become economically important too.

Indeed, demand for all these things shows definite signs of outstripping supply. Inevitably, this tends to increase the competitive element in mankind's exploitation of this attribute of the sea. Sadly, acute competition for scarce or valuable sea resources has always played an important and often destructive part in human history.

1.5 THE SEA AS A MEDIUM OF TRANSPORTATION AND EXCHANGE

Centuries ago, the Makassar peoples came once a year to the inshore waters of northern Australia in search of *beche-de-mer* (sea cucumber) for the Chinese soup trade. They developed relations with the first Australians, and inevitably began trading with them. In just the same way, European fishermen, following shoals of migratory fish far out from shore, came into contact with fishermen from other areas and developed a sense of community. A loose but definite Atlantic community was established in which the sea was a medium for the exchange of goods, news and ideas.

This sense of a distinct maritime community developed very early, by the Neolithic era, and explains the remarkable cultural similarities that can be seen along the Atlantic-facing coast from Scandinavia to Portugal. Evidence for this community includes strong

similarities in their distinctive burial practices (for example, the characteristic passage tombs of the fourth millennium BC) and their pottery (for example, the so-called 'bell beakers' of the third-second millennium BC). Of course, as time went by these characteristics changed and grew generally more sophisticated, and benefited also from contact with the peoples of the interior. Despite this, it was the sea that linked them together.

There were equivalents to this all over the world—in the Asia-Pacific, the Indian Ocean, the Arabian Sea and the Mediterranean. These local trading systems are increasingly considered by archaeologists to be much older and more sophisticated than originally thought.¹⁰

The resultant regional, sea-based communities overlapped and indeed interacted at the key nodal points that separated them geographically. Thus in the later Bronze Age, the Phoenicians based in the central and east Mediterranean, bringing luxuries from the south, went through the Straits of Gibraltar and established a big trading centre at Gadir/Huelva in what is now southern Spain to link up with the Atlantic community in their search for copper and tin. People travelling from one area to another would encounter sub-regional local transportation systems. Thus the Greek navigator Pytheas, setting out from Marseilles, either rounded Spain or sailed along the River Garonne to the Bay of Biscay, and was then able to make use of an interconnected series of local sailings to complete a remarkable circumnavigation of the British Isles, with an excursion to Scandinavia on the way, in the late fourth century BC.

Fifteen hundred years later, the Vikings, inspired by the same spirit of adventure, enterprise, curiosity and greed, made their way across the North Atlantic via Iceland, Greenland and Newfoundland to make first contact with the Americans. After another 200 years the Portuguese, Spanish and other west Europeans followed these early explorers across the Atlantic, made their way by stages round Africa (in the opposite direction to the Phoenicians who had come round the other way 2,000 years before) and into the Indian Ocean, eventually reaching the Asia-Pacific.

When they got there, they found a rich Islamic maritime community that had developed in the same kind of way, all round the shores of the Indian Ocean and into the western Pacific. This was another loose and shifting confederation of city states and empires linked by their Islamic culture and by sea-based trade. Arab and South Asian traders sailed the waters of South-East Asia and developed settled communities in China, while Chinese traders did the same in the opposite direction. By the eleventh century, cities in south-east China like Quanzhou and Guangdong became cosmopolitan Asian trading centres with large permanent settlements of foreign merchants. Such overseas trade when combined with overland commerce from the interior made the China of the Song and early Ming dynasties the world's largest and wealthiest commercial empire of the era: a magnet, therefore, for everyone else.¹¹

Indeed, the antiquity and extent of Chinese penetration of the world's oceans and the relative sophistication of their maritime endeavour more generally is only now becoming clear. Maritime artefacts dating back some 8,000 years have recently been uncovered. Some historians even believe that Zheng He's famous Indian Ocean cruises of the fourteenth century in fact extended to the first circumnavigations of the world and to exploration of the coast of America.¹²

The result of all this maritime trading was a complex web of inter-regional, regional and sub-regional maritime transportation systems that spanned the globe. In 1902, the perceptive Mahan put it this way:

This, with the vast increase in rapidity of communication, has multiplied and strengthened the bonds knitting the interests of nations to one another, till the whole now forms an articulated system not only of prodigious size and activity, but of excessive sensitiveness, unequalled in former ages.¹³

In effect, the sea turned the world into a complex maritime system based on international trade.

Explaining the System

There were two main, interconnected reasons for this. First, at least until the latter stages of the industrial revolution, it was faster, cheaper and safer to travel and to send goods by sea (or by river) than by land.

The advantages of water transport were not, Mahan emphasised, ‘accidental or temporary; they are of the nature of things, and permanent’. ‘[S]o it is upon the sea-coast, and along the banks of navigable rivers’, concluded Adam Smith in 1776, ‘that industry of every kind naturally begins to subdivide and improve itself.’ Water transportation made everything possible, encouraging and stimulating an expansion of trade.¹⁴

Second, and connectedly, there were enormous profits to be made, despite the ship and crew losses of early trading ventures. In the sixteenth century the Portuguese, trading in spices through the Indian Ocean, could lose perhaps a quarter of their ships at sea, and up to half their crew, but still turn in a profit. It was said that a merchant could ship six cargoes of spices and lose five, yet still make a profit when the sixth was sold.¹⁵

...and its Consequences

But while the sea was indeed the high road to prosperity, Adam Smith was keen to make another point, namely that the trading system it produced was mutually beneficial. ‘What goods could bear the expenses of land-carriage between London and Calcutta?’ he asked, rhetorically. Water transport, however, made everything possible. As a result, ‘Those two cities, however, at present carry on a very considerable commerce with each other, and by mutually affording a market, give a good deal of encouragement to each other’s industry.’¹⁶

The result was a web of four-way trading links between China, South-East Asia, the Indian Ocean and Europe, in which everyone participated regardless of religion, race or allegiance and from which everyone benefited at least to some degree. Although overland trading routes *were* still important, this was largely an oceanic system.¹⁷

Nineteenth-century liberal free-traders further developed these ideas. They articulated the notion that sea-based trade was a process of mutual benefit and partnership and rested essentially on international peace to which the resultant prosperity and stability would materially contribute. Nowadays, of course, these are the values and assumptions of the World Trade Organisation (WTO) and contemporary advocates of globalisation. They

emphasise, in Mahan's words, the 'commercial interest of the sea powers in the preservation of peace'.¹⁸

But there is a darker side to all this as well, namely the mercantilist notion that trade often benefits one party to the transaction much more than it does the other, and that one's loss is the other's gain. Trade could lead to intense commercial rivalry of the sort characteristic of the Dutch and English East India Companies, for example. This spilled over into lethal violence and both maintained their own armies and navies to defend their interests. Trade competition could in fact almost be regarded as a form of war between rival suppliers.

The relationship between customer and supplier could be nearly as conflictual. When, for instance, the Portuguese arrived in the Indian Ocean they behaved in an extraordinarily aggressive and combative manner, determined to trade 'with advantage' and to force their terms of trade on others if necessary.

Perhaps the most notorious examples of this approach are the two 'Opium Wars' between China and Britain and other Western powers in the nineteenth century. To buy British manufactures, Indian opium growers and country traders had to export their crop to China, even though this was entirely contrary to the wishes and interests of the Chinese authorities. In their turn, the Chinese would pay for opium by exporting tea to Britain. The expressed purpose of the resultant maritime wars was to force the Chinese to participate in a balanced and global trading system that would, it was widely and genuinely believed, be in their own long-term interest.¹⁹

The maritime character of the two wars that resulted showed that, in Mahan's words, 'Commerce, the energiser of material civilisation, can work to the greatest advantage, and can most certainly receive the support of the military arm of sea power.'²⁰

Despite the cooperative expectations of liberal free-traders, then, maritime trade could sometimes become bound up with conflict and war-and this for two distinct reasons. First, simply because it was so central to the prosperity of nations, a nation's share in maritime trade was bound to be the subject of acute competition in peace and attacked in war. Second, and this goes back to Mahan's original point that the global maritime trading system was sensitive and vulnerable, it needed military protection. This closely links the sea's second and fourth attributes as a means of transportation and of dominion, but before considering this we need to look at the third attribute.

But even before that, it is also worth making the point that some of the things that travelled around the world in consequence of the sea's advantages as a means of transportation could hardly have been more malign. Distinctive contagious and deadly diseases developed in various parts of the world, but the world transportation system spread them around before newly exposed populations could develop their immunities. The results were often catastrophic. The Black Death probably came to Europe through shipboard rats. Europeans brought diseases with them to the Americas that devastated local peoples. As late as the early 1900s, shipping spread bubonic plague around places as far apart as Bombay, Sydney, San Francisco and Buenos Aires, with awful consequences. These events are a useful reminder that maritime transportation can sometimes have terrible results.²¹

1.6 THE SEA AS A MEDIUM FOR INFORMATION AND THE SPREAD OF IDEAS

Consciously and Unconsciously Spreading Ideas

Trade involves talking. It is about the conscious or unconscious exchange of ideas and information as well as goods. Through their maritime interaction, the Mesolithic Europeans picked up ideas about how to construct burial chambers, how to decorate pots, and doubtless about much more that has left no specific trace. Maritime trade and the exchange of ideas and information appear inseparable.

Sometimes this exchange of information and values is conscious and deliberate. Early explorers discovered new hitherto unknown crops and brought them home. In this way, potatoes, tobacco, bananas, coffee and tea, and so forth arrived in Europe. Maritime traders from South-East Asia and the Indian Ocean area brought early-maturing rice, sugar cane, jasmine, cotton, pumpkin, cabbage and so on to early China. These all produced green revolutions and major markets. China imported its first sweet potatoes in 1593 and now produces 80 per cent of the world crop.²²

Some people, however, went further and saw the sea as a means by which they could communicate their ideas to the unenlightened in a much more deliberate manner than this. There were strong maritime associations with the spread of Christianity, for example. Missionaries of the ninth and tenth centuries set out from Ireland across the Irish Sea to the other islands of the north Atlantic, perhaps finding their way in due course to America with the express and conscious purpose of bringing Christianity to the heathens and converting them if possible. Whatever their other motives may have been,

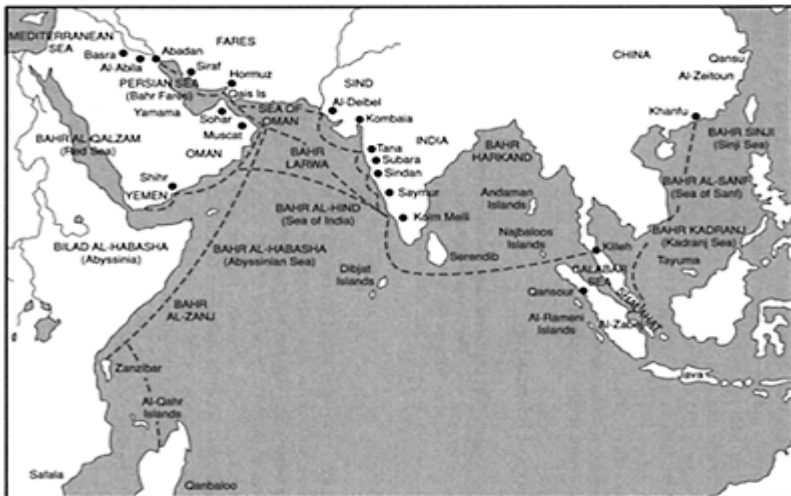


FIGURE 1.4 Oman's Sea Routes to the Far East and East Africa in the Islamic Ages

(Source: Casey-Vine, 1995).

the Spanish and Portuguese colonists of later centuries also came to America, the Indian Ocean and the Far East in pursuit of souls. Thanks to the sixteenth-century activities of Francis Xavier and others, half a million of Japan's 18 million people were Christian: enough, concluded the Tokugawa shogunate, to threaten the very nature of Japanese culture and society.

Although Christian sea-based proselytisation is the clearest and arguably most successful example of this sort of thing, it is not unique. Islamic rulers spread their faith in much the same way around the Indian Ocean, the Mediterranean and into the Far East. There were complex links, too, between the spread of Buddhism and sea-based trade.²³ Sadly the desire to spread the faith in this way could itself become a source of international strife.

Very often, though, it was more a question of the *unconscious* transmission of trading values and everything that went with them. We will need to return to this important issue later.

In Search of Information

'The fair breeze blew, the white foam flew
The furrow followed free.
We were the first that ever burst
Into that silent sea.'

Samuel Taylor Coleridge,
The Rime of the Ancient Mariner

People went not just to spread information but to gain it as well. The urge to explore, to find out what was over the far horizon, and sometimes to reach a better place, was part and parcel of mankind's relationship with the sea. Francis Bacon's *New Atlantis* of 1627 is an early English example of this. It is a mysterious, allegorical, romantic work suffused with the notion of cooperative, scientific endeavour linked with maritime activity. It is about the association of the sea with freedom of travel, open horizons, enquiry, discovery and the pursuit of knowledge and progress, contrasting with the 'ignorant, fearful and foolish' who so limited their destinies by trying to insulate themselves from such maritime endeavour.²⁴

This was at least part of the motivation for maritime exploration, especially from the sixteenth century onwards. While by no means restricted to Europeans, the reasons for mankind's urge to find out what was over the far horizon can be summed up best by looking at their example, particularly the case of Captain James Cook and his colleagues and rivals of the eighteenth century. Amongst their motivations were:

- *High-minded scientific enquiry.* This included helping to develop cartography and navigation (specifically by measuring the transit of Venus across the sun from Tahiti)

and discovering flora, fauna, peoples and societies unknown to Europeans (hence the large numbers of naturalists and artists embarked).

- *Commercial interest* Admiral Byron was sent to find *Terra Australis Incognita* ‘in latitudes convenient for Navigation and in climates adapted to the product of commodities useful in Commerce’. Since Ptolemy, the existence of a large temperate continent to the south, necessary to counter-balance the Eurasian landmass to the north, was thought to exist. If found, it and its people could be a tremendous market.
- *Strategic interest* New sea routes might have considerable strategic significance. Norfolk Island pine and Australasian hemp might be a means of reducing Britain’s dangerous dependence on the Baltic area.²⁵

Not surprisingly, therefore, even the sea’s attribute as a means of gaining and transmitting information could be a matter of both cooperation and conflict. On the one hand, the pursuit of knowledge was regarded as a universal good. For that reason, Cook was given immunity from attack by the French and others, even during war, because his activities were considered to be in the common interest.²⁶ But there was real rivalry here too. The Europeans tried to keep early route-finders (Rutters) and maps (Waggoners—after Lucas Waghenauer) very much to themselves. Inevitably, there was much industrial espionage in which spies sought constantly to uncover their competitors’ navigational secrets. And, most obviously, when Cook and others found ‘new’ bits of desirable real estate they did not simply record its existence, they claimed it for their countries—whatever the locals might think.

The values of the peoples they discovered were often treated in the same way. On the one hand, many Europeans were surprisingly sensitive to local perceptions and interests. Mariners chancing across Tahiti thought they had discovered paradise, and philosophers like Denis Diderot pleaded for the Pacific to be left unexploited and uncorrupted. On the other hand, there were those who strongly disapproved of local social values (which was tyrannically stratified and included human sacrifice and infanticide on a large scale) and sought to reform the benighted for their own good. Mahan, writing much later during the relief expedition to Peking during the Boxer rebellion, summed it up quite well. He supported the Western maritime right, ‘To insist, in the general interest, by force if need be, that China remain open to action by European and American processes of life and thought.’²⁷ Inevitably, this takes us to the fourth and last attribute of the sea.

1.7 THE SEA AS A MEDIUM FOR DOMINION

The fact that so many coastal communities are fortified both against, and from, the sea shows that the sea is a source of vulnerability to marauders from afar. Ireland itself has over 250 known cliff-top castles acting both as a defence against invaders from the sea and as a springboard for aggressive Irish maritime endeavour, a pattern to be found all round the world.

In Europe and the Near East, the Phoenicians, the Greeks and the Romans demonstrated all too clearly that the sea is a strategic highroad, a medium by which one group of people can come to dominate the affairs of another. Rome conquered Britain, by sea, because it was a refuge to political refugees and asylum seekers always causing trouble on the Roman mainland. The Vikings likewise came by sea, attacked and

conquered most of Britain, partly to escape the pressure of other land-based marauders to their east and partly in search of the riches associated with dominion. They went on to the Mediterranean, and across the Atlantic via Iceland to Greenland, Nova Scotia and the Americas. Their Frenchified successors, the Normans, followed suit a few centuries later still.

Later Europeans, initially the Portuguese and the Spanish, followed soon after by the Dutch, the French, the British and most others to some degree, came by sea to North and South America, to the Indian Ocean and the Pacific, in tiny numbers overthrowing (often with extreme savagery) huge empires such as the Aztecs and the Incas. The Portuguese are an especially good example of what the Greeks call a 'thalassocracy': an empire founded on mastery of the sea. The Portuguese first fought their way into a new area and then had to protect their investments there. Their soldiers were never sufficiently numerous to engage in major continental campaigns, so their 160-year empire in the Indian Ocean rested on a few garrisons in strategic places and on superior naval forces. When others, especially the Dutch and the English, began to accumulate greater levels of naval force, the Portuguese empire went into decline.

The British empire which succeeded it in this area was likewise based on seapower. Its strategists conceived of the empire as a huge landmass divided by eight chunks of water (the Dardanelles and Bosphorous, the Caspian Sea, the Tigris-Euphrates rivers, the Nile, the Red Sea, the Aral Sea and River Oxus, the Gulf and the Indus/Sutlej). Controlling these water areas assured control of the land. Losing them would result in imperial decline. The security of the empire then rested on a series of defensive and offensive strategies centred on controlling the sea.²⁸

For better or worse, the Europeans created new empires and changed the world. And they did it by sea. To make it all possible, they developed navies and a strategy, a set of concepts of how to use them, from which all of the classic functions of seapower derived: assuring sea control, projecting power ashore in peace and war, attacking and defending trade, directly and indirectly, and maintaining good order at sea.

Although the Europeans provide perhaps the clearest example of the sea as a means of dominion, they are far from unique. The Islamic world around the Indian Ocean shows another example of the way in which traders are followed by missionaries and soldiers, and empires result. The Oman sea-based empire of the seventeenth to nineteenth centuries is another later example of the same kind of thing.

Mixed Motivations that Span the Four Attributes of the Sea

Motivations for such maritime endeavour were mixed but certainly included a strong economic dimension, in that there was a widespread view (rightly or wrongly) that in order to sustain growth, modern states needed access to other areas, preferably controlled in some way, for further resources and markets. It is not only Marxists who conclude that this kind of international competition linking all four attributes of the sea lead to imperialism. Mahan was quite clear that colonies offered 'a foothold in a foreign land, a new outlet for what it [the colonial power] had to sell, a new sphere for its shipping, more employment for its people, more comfort and wealth for itself'.²⁹

The last and one of the clearest examples of this was the Japanese attack on the US Fleet at Pearl Harbor and European holdings in South-East Asia in a desperate attempt to

shock them into the acceptance of the establishment of a Greater East Asia Co-Prosperity Sphere.

Sometimes, of course, there were ‘informal’ versions of this, in which a Great Power exercised great commercial power over an area, perhaps with military power over a distant horizon, but without the formal and costly institutional trappings of empire. British trading strength in South America in the nineteenth century is one example of this; to its modern critics, globalisation is another.

The Advantages of Seapower

The conclusion to all this seemed obvious. Sir Walter Raleigh held that ‘He that commands the sea, commands the trade, and he that is Lord of the trade of the world is lord of the wealth of the world.’³⁰

Strength at sea was such a clear path to dominion and power that countries sought to control it for what that control could apparently give them. They sought dominion over the sea itself. Thus the Treaty of Tordesillas of 1494, which divided the oceans of the world in two, giving one half to Portugal and the other to Spain; the literally exclusive legal thinking behind John Selden’s *Mare Clausum* of 1635; the development of the concept of the territorial sea, of the maritime frontier, of the insistence of tribute and deference from passing seafarers.

Mahan famously concluded:

Control of the sea by maritime commerce and naval supremacy means predominant influence in the world...[and] is the chief among the merely material elements in the power and prosperity of nations.³¹

To many, the final collapse of the essentially un-maritime and land-bound Soviet empire at the end of the twentieth century was simply the latest illustration of the relative advantages of seapower. With it, moreover, the revisionist school associated with the historian Paul Kennedy, who argued that Mahan had exaggerated the historic effectiveness and future importance of seapower, fell from academic grace.³²

To the extent that they could profit from the sea as a medium of commercial transportation and trade, the economies of the sea powers would boom; to the extent that they could exploit the strategic advantages of deploying decisive military power at sea and then projecting it ashore against the land-bound, their strategies would succeed. Because, therefore, the sea powers would generally prosper in peace and prevail in war, they would inevitably become great. That is, they conclude, the only explanation for the success of small countries with limited land areas, populations and resources such as Portugal, the Netherlands, England and—they might have added—Venice, Oman and quite a few others. Thus in Corbett’s view only seapower explained how it was ‘that a small country [like Britain] with a weak army should have been able to gather to herself the most desirable regions of the earth, and to gather them at the expense of the greatest military powers’.³³

But even if their continental preoccupations meant that countries such as France, Germany or Russia could not go so far in exploiting such maritime opportunities, they would benefit commercially and strategically to the extent they could follow suit.

1.8 EXPLAINING THE SECRET OF MARITIME SUCCESS

‘There is nothing—absolutely nothing—half so much worth doing as simply messing about in boats.’

Kenneth Grahame, *The Wind in the Willows*

Seapower is clearly a larger concept than landpower or airpower, neither of which encompasses the geo-economic dimensions of human activity to the extent that seapower does. As a Bangladeshi author has interestingly remarked:

Unlike the army and the air force, whose size and firepower have to be related to that of potential adversaries, the size of the navy is determined by the quantum of maritime assets and interests that you have to safeguard.³⁴

Accordingly, seapower can best be represented as a tight and inseparable system in which naval power protects the maritime assets that are the ultimate source of its effectiveness.

Of course, navies that have tended to prevail were generally those with great warships and effective weaponry, with better tactics and more advanced technology, and above all perhaps with first-rate commanders able to wield their fleets with ruthless efficiency. The Portuguese broke into the Indian Ocean because they had all these advantages and so prevailed against the much larger navies they encountered there. If there was a revolution in maritime affairs at this time, it was the combination of the maritime nail and naval artillery of the Portuguese men-of-war. Local vessels, held together by coconut fibre, could not stand the shock of heavy artillery. Their practice was to ram and board—fighting, infantry style, at close quarters. At the battle of 1502 off the Malabar coast a small Portuguese fleet under Vicente Sodre faced a huge local armada in which several hundred Red Sea dhows joined forces with the fleet of the king of Calcutta; the Portuguese simply stood off and battered their adversaries to pieces from a distance.

Such fighting advantages were not, however, the exclusive property or the invention of the Portuguese or of anyone else. After all, many of the navigational advances made towards the end of the European Middle Ages derived from contact with the Islamic world, even down to the use of the word ‘Admiral’, which in Arabic once meant the ‘Prince at Sea’. Across the other side of the world, the Koreans deployed the first armoured warship and, of course, China of the Song dynasty (from AD 1000–1500) boasted ‘the world’s most powerful and technologically sophisticated navy’.³⁵

What was distinctive about the European approach to seapower at this time was that, like the Chinese and others before them, they had discovered the huge advantage to be derived from the close association between the military and the mercantile aspects of seapower. Especially in the hands of the Venetians, the Dutch, the British, and, to a lesser extent, the Portuguese, Spanish and French, a virtuous circle was at work, as illustrated in Figure 1.5.

From maritime trade, the Europeans were able to derive maritime resources that could be diverted to naval purposes when the need arose. Partly it was through having ports, merchant hulls and seamen that could be used to support the navy directly. Partly it was

through having access to the indirect benefits deriving from the kind of sophisticated financial structures that maritime trade encouraged.

All this underpinned naval strength in a whole variety of ways:

- Mercantile finance could be used to fund naval effort. This meant it was much easier for the maritime powers (that is, naval powers with a strong mercantile element) to build a navy than it was for the merely naval powers. At the end of the seventeenth century, the French (at this time much less maritime than the British) showed that with a real effort they could out-build the British and produce a bigger and indeed very fine fleet—but they could not maintain it. The British simply outlasted them. Maritime powers could devote huge resources to building and

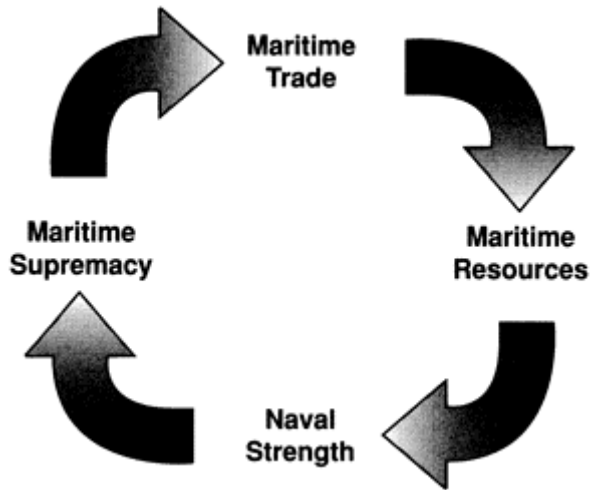


FIGURE 1.5 The Virtuous Maritime Circle

maintaining a fleet but at less real cost, and they often had enough left over to support the war effort generally and, in Britain's case, to subsidise allies as well.

- Mercantile finance from the profits of trade also funded access to a mass of industrial and technological developments. The Royal Navy of the eighteenth century and all of its supporting dockyard and manufacturing infrastructure, for example, was the world's biggest industrial enterprise by far.³⁶
- This could be translated into specific military advantage. The British industrial lead in coke-smelting techniques and steam machinery, for example, meant it was much easier for the Royal Navy than the French to copper-bottom its ships—making them more nimble and faster than old ships would otherwise have been.

Here the British example has been given, but there were many others—for instance, Oman:

Most human settlements along Oman's coastline depended primarily on the sea for their livelihood. Omanis were in need of a big mercantile fleet

to achieve their goals. The Omani fleet represented, from the outset, the backbone of the country's economic life. It was multifunctional, involved with fishing, transportation, trade and protection of the country and its people (on the land as well as at sea). It would not be an exaggeration to say that Oman's power depended upon its maritime strength and *vice versa*.³⁷

All this made for an approach to war that was uniquely cost-effective, as we shall see later, and does much to explain why the maritime powers predominated over the merely naval, and in most cases in the last few centuries over the continental ones too. The interconnections were perfectly summarised by the French Minister of Marine in 1901, J.L.de Lanessan:

If we wish to become a great commercial democracy, which will necessitate a great development of our mercantile marine and important progress in our Colonial empire, we must possess a fleet of such strength that no other power can dominate to our detriment the European waters on which our harbours are situated, or the oceans where our merchant ships circulate.³⁸

The failure of de Lanessan's project to develop France into a great maritime power, however, demonstrates that this virtuous circle was not a closed system—it could be influenced decisively from outside. In this case, the overland threat from Germany essentially broke the circle up. Much the same thing happened to Oman and China when their land borders were threatened by neighbours.

But recent studies have taken this argument a little further and sought to explore the workings of this virtuous circle.³⁹ What kept it going, generally, so well? One key candidate for this role is the association of maritime supremacy with a system of beliefs and of styles of government. The argument goes like this:

Seafaring and trade produce merchants. Merchants accumulate wealth, and then political power in order to defend and develop it. Often they will prevail in government, and enforce their ideas on others. These are the ideas that encouraged trade in the first place: freedom of information and therefore of opinion, open and responsive government, fair taxation, social enterprise—all the liberal values so familiar today. In the seventeenth century, the English marvelled at the freedoms of the Dutch. Thus Sir William Temple, the English Ambassador reported on that '[S]trange freedom that all men took in boats and inns and all other common places, of talking openly whatever they thought upon all public affairs both of their own state, and their neighbours.'⁴⁰

A century later, the Frenchman, Montesquieu, said much the same thing about England, calling it 'the freest country in the world'. That freedom was both a product of commercial enterprise and something that facilitated it. Because of the wealth and the resources it generated these freedoms were at the heart of maritime power. Nicholas Rodger makes the essential point: navies need consensus because they require the maximum involvement of seafarers, ship-owners, urban merchants, financiers and investors. Autocracies manage armies well enough, because that is much more a matter of simply mobilising manpower and the equipment it needs.⁴¹

It would be easy to fall into the trap of concluding that these values were Western values, but they are not. They are *trading* values and have been espoused by other peoples at various times. The China of the 500-year-long Song dynasty was one example of this. Despite overland threats from the north and west, naval power was important to the regime, and had a distinctly mercantile approach. Protecting the merchant fleet against some particularly powerful and well-armed pirates was a high priority. This resulted in the construction of a chain of naval bases along the coast, the development of a convoying system and encouragement of new and sophisticated means of boarding and close engagement, since it was much better to seize or destroy pirate ships than merely to drive them away.⁴²

Arguably, the connections between maritime power, liberalism, trade and prosperity are as true now as such authors claim they were then. To judge by current economic performance early in the twenty-first century, free societies seem to have continuing advantages. Democracies are used to the free exchange of information which is at the heart of successful trade and it seems no coincidence that they are also the leaders of the information revolution.

But for many these were, and maybe remain, unsettling thoughts. Some regimes, discerning the risks and the challenges inevitably associated with maritime power, have deliberately pulled up the drawbridge against its apparent advantages and opportunities. One Chinese emperor did that quite consciously. After nearly 500 years of deeply impressive and rounded maritime endeavour, the construction of all sea-going ships and foreign travel were banned because China's rulers did not know where it would all end. A little later, in 1639, the Japanese under the Tokugawa shogunate followed suit, turned their back upon the sea and based their system on domestic peace and agricultural taxes. Japan's culture flourished, but the Japanese fell further and further behind global developments until their self-imposed isolation was rudely shattered by the US Navy in 1853.

The Russians, too, have always been ambivalent about the sea. Peter the Great developed and built a navy specifically to attract trade and Western ideas, and even moved his capital to St Petersburg in order to accommodate all this. His navy was full of foreigners; he personally learned about shipbuilding in Amsterdam and Deptford. He did everything he could to turn Russia into a trading nation. For many of his subjects and his successors this was all too much. Despite its periodic brilliance (especially at the end of the eighteenth century under the great Admiral Ushakov), the navy was seen by conservatives as basically un-Russian and a source of ideas dangerous to the existing system, which of course it was. When Stalin shot most of his admirals in the late 1930s he was in one sense conforming to an ancient Russian tradition of eliminating possible sources of insurrection; but, paradoxically, the admirals he spared were exactly those who said that the Soviet Navy needed to modernise and follow the general lines of development set by the British, US and Japanese Navies.

In this, Stalin was tacitly acknowledging the difficulty of insulating his regime from the pervasive influences of modern maritime power. The Japanese and Chinese had already discovered this.

1.9 SEAPOWER: QUALIFICATIONS AND LIMITATIONS

All this should not be taken to mean that the maritime powers always prevail, for manifestly they do not. Being maritime brings vulnerabilities as well as opportunities. Sophisticated maritime powers depend on a complex network of shipping that imports raw materials, food and uncompleted goods, and exports finished and manufactured products. This can be a delicate system, and a dangerous source of vulnerability especially when the distracting effect of continental threats, or governmental neglect, or the appearance of a stronger maritime adversary, produces a navy insufficient to protect the wider maritime system on which it ultimately depends. As the fate of the Netherlands in the late seventeenth century and Japan more dramatically in the mid-twentieth century show, not just the interests but the very survival of the maritime power may be at stake.

Many argued at the time of the Cold War that the North Atlantic Treaty Organisation (NATO) had such dangerous vulnerabilities too. As its name suggests, it was an alliance as much separated by the ocean as it was joined by it. Its strategic coherence and economic survival depended on sea-based transportation, which sometimes seemed dangerously exposed to the burgeoning Soviet Navy and land-based air-forces. Accordingly, much of NATO's naval resources were directed at the *defence* of those unavoidable maritime vulnerabilities. This, combined with the often remarked superiority of the offence at sea (which will be considered later), meant that much of NATO's maritime effort was devoted to ensuring that NATO did not lose a possible war with the Soviet Union, rather than providing a means by which NATO could win it.

The demanding but essentially protective function that sea powers usually have limits their capacity to impose their will on others, and was seen by the great British geographer, Halford Mackinder, and his followers as a grave, historic and developing weakness. Such geo-politicians pointed out that many long-lasting empires had in fact been based on landpower not seapower (not least the Mongols, who created a massive empire lasting some 500 years that was about as far from the sea as it is geographically possible to get). Mahan and others had made too much of the Columbian era, which was in fact the exception to the rule. Further, they argued that the 'world political potential of sea power had been in full retreat long before the first submarine had plunged below the surface and the first plane had taken to the air'.⁴³ This was because land communications were improving and land powers were developing ever better means of exploiting the vulnerabilities of the maritime powers. They developed naval forces (like the German U-boats of the First and Second World War) that had no protective function to distract them and could be wholly devoted to offensive campaigns of sea denial.

In effect, sceptics such as Halford Mackinder and his latter-day followers argued that the virtuous circle of seapower was not a closed system. Instead it could be, and indeed was, very badly affected by influences from outside over which sailors had no control. But, having briefly identified some of the arguments about the importance and workings of seapower, we should now plunge into the matter rather more deeply.

Chapter Two

Who Said What and Why it Matters

‘There is no smartness about sailors. They waddle like ducks, and can only fight stupid battles that no one can form any idea of. There is no science nor strategem in sea-fights—nothing more than what you see when two rams run their heads together in a field to knock each other down. But in military battles there is such art, and such splendour, and the men are so smart, particularly the horse-soldiers.’

Anne, in Thomas Hardy’s *The Trumpet Major* (London: Macmillan, 1925), p. 354

2.1 THE VALUE OF THEORY IN MARITIME OPERATIONS

The Case Against

However sensible her views on other things, Anne was wrong about there being ‘no science nor strategem in sea-fights’. There is, but naval officers around the world have traditionally been averse to thinking about it. Mahan lamented the fact that not only were British naval officers not ‘instruit’ in the French sense, they did not want to be. ‘To meet difficulties as they arise, instead of by foresight, to learn by hard experience rather than by reflection or premeditation, are national traits.’¹

This was partly because the process was and is often quite boring, partly through fear that abstract concepts may damage young or tender minds, and partly as Winston Churchill remarked: ‘The seafaring and scientific technique of the naval profession makes such severe demands upon the training of naval men, that they have very rarely the time or opportunity to study military history and the art of war in general.’²

More seriously, there is concern that the consequences of such thinking might prove too prescriptive and deadening for free-ranging operations on the open ocean. Corbett reproduced a seventeenth-century report which pointed out the essential difference between operations at sea and on land:

it intended to enjoin our fleet to advance and fight at sea much after the manner of an army at land, assigning every ship to a particular division,

rank, file and station, which order and regularity was not only improbable but almost impossible to be observed by so great a fleet in so uncertain a place as the sea.³

Compared with navies, armies in action disaggregate into much smaller units (down to platoons and very possibly individual soldiers). A strong sense of common purpose and prescriptive doctrine is the only thing that may bind them together in the confusion of battle. Fleets at sea need it too, but to a much lesser degree, so the argument goes. Hence the traditional naval wariness about excessive conceptualisation and prescriptive doctrine; better to rely on an offensive instinct schooled by experience. The pantheon of naval heroes indeed is dominated by people like Nelson who are held constructively to have broken ‘the rules’, whereas ‘rat-catchers’ like Admiral Jellicoe observed and even invented them. Battles of lost opportunity such as Jutland and the inconclusive line engagements of the British and French in the eighteenth century on the other hand show the ultimate futility of simply ‘going by the book’.⁴

The Case For

These days such arguments fail to convince. The modern naval view is that the *absence* of theory is far more likely to stultify action than its presence. Navies are still important but they operate in a vastly different strategic environment and face entirely different problems (as well, of course, as many more familiar ones); all these issues need to be seriously thought about and theorised over because they have implications for what navies do and how they do it.

How can the conduct of naval operations in the context of a major war between advanced states continue to be the guiding principle for naval preparations, if such wars are indeed going out of fashion? On what basis other than constructive and continuous theorising can navies safely steer their way through the deluge of new technology, make their investment decisions, determine their fighting techniques, plan and conduct their operations? As so often, Clausewitz makes the essential point:

Theory cannot equip the mind with formulas for solving problems, nor can it mark the narrow path on which the sole solution is supposed to lie by planting a hedge of principles on either side. But it gives the mind insight into the great mass of phenomena and of their relationships, then leaves it free to rise into higher realms of action...

Theory exists so that one need not start afresh each time sorting out the material and ploughing through it, but will find it ready to hand and in good order. It is meant to educate the mind of the future commander or, more accurately, to guide him in his self-education, not to accompany him to the battlefield.⁵

Clausewitz’s point that ‘one need not start afresh’ is worth emphasising. Since theory is often based on the processing of past experience, history, far from being simply ‘a record of exploded ideas’ should help us avoid repeating previous errors. History rarely repeats itself, but it does point out not just the similarities of past and present but also the

essential differences. Studying it and reflecting on the conclusions that previous thinkers have drawn from it helps, at the very least, to identify the questions that ought to be asked and the issues that need to be thought about in difficult and troubled times.⁶

Musashi's conclusion that 'the warrior's is the twofold way of pen and sword, and he should have a taste for both ways' seems right and applies to naval warriors too.⁷

2.2 ON TYPES OF THEORY

Strategy and Strategic Thinking

Like many other military terms, 'strategy' has been taken over by the business community and has become so diluted as to mean not much more than the way you try to get what you want. This is not very helpful. Instead, it is better to revert to the original use of the term as it relates specifically to the strategic level of war. Robert Osgood reminds us that this level of war is especially characterised by the association between military means and political ends:

Military strategy must now be understood as nothing less than the overall plan for utilising the capacity for armed coercion—in conjunction with the economic, diplomatic and psychological instruments of power—to support foreign policy most effectively by overt, covert and tacit means...⁸

Three points follow from this quotation:

- Clearly, Osgood, like Mahan and most other strategists, is taking an unashamedly 'realistic' view of human nature and behaviour.
- Osgood's is a broad definition, which emphasises that there is much more to strategy than simply killing people efficiently. Strategy is not restricted to the conduct of war, but extends into peacetime as well. Osgood widens the agenda by emphasising other forms of power and differing types of strategy. It may well include using your armed forces to win friends, or to influence their behaviour, as much as coercing or deterring possible adversaries.
- The phrase 'to support foreign policy' makes the point that strategy, war and conflict should be designed to accomplish a political objective. This is what justifies strategic action and, as Clausewitz remarked, this is what determines a consequent conflict's form and character:

War is nothing but a continuation of political endeavour with altered means. I base the whole of strategy on this tenet, and believe that he who refuses to recognise this necessity does not fully understand what matters. The principle explains the whole history of war, and without it, everything would appear quite absurd.⁹

Liddell Hart made the same point more succinctly, by defining strategy as ‘The art of distributing and applying military means to fulfil the ends of policy.’¹⁰

Strategic theory, obviously, is thinking about strategy, trying to ‘put it all together’ through the development of a skein of connected thought about the nature, conduct and consequences of naval power. This is what distinguishes the likes of Mahan and Corbett from people like Shakespeare, Hardy and Coleridge, whose stimulating maritime observations may enliven these pages but who are clearly not maritime strategists.

Maritime Strategy: Five Questions to Ask

For now these five questions will simply be raised. It is hoped that the answers will emerge in the following pages.

First, does maritime strategy really matter? Sceptics point to the fact that most sailors have to concentrate on the tactical level of war; for them, the focus of books such as Ian Inskip’s brilliant (2002) *Ordeal by Exocet: HMS Glamorgan and the Falklands War, 1982* show what sailors at the sharp end have to bear and do much better than accounts set at the higher levels of war.

Even at these higher levels, it is often difficult to measure the practical influence that people like Mahan and Corbett actually had on naval policy. It is true that John Clerk did, in his 1782 *Essay on Naval Tactics*, discuss the idea of the British making an echeloned approach to their enemy from to-windward in a manner that prefigured Nelson’s famous Toulon memorandum and his dispositions at Trafalgar. It is also true that in the absence of Emma Hamilton, one of Nelson’s notions of entertainment was to listen to his chaplain reading aloud in the evening from Clerk’s work. But trying to establish any closer link between abstract theorising and the conduct of naval operations is usually impossible. Indeed, some would reverse the connections between ideas and events. Mahan is, for example, often held to have benefited from rather than been responsible for the expansion of the US Navy at the beginning of the twentieth century and its adoption of ‘Mahanian’ ideas. In which case, ‘Why bother?’ some might ask.¹¹

Second, the above quotation from Liddell Hart is also useful in that it raises the perennial issue of whether maritime strategy is an art or a science. There have always been two traditions here. Some maritime strategists focus on the material and quantifiable aspects of war (the disposition of fleets, the physical performance of weapons) and treat it almost as a science. Here the essentials of strategy can be reduced to neat and tidy laws. Others focus instead on the unquantifiable, unpredictable human aspects of war (command, leadership, motivation) and regard strategy as an art, where the commander’s judgement and style are crucial. Of course, both traditions apply to all military situations and to nearly all strategic theorists although the balance struck between them varies. But Mahan spoke for most when he concluded that war is essentially an art and ‘it is for the skill of the artist in war rightly to apply the principles and rules in each case’.¹²

Third, are the principles of maritime strategy permanent, true for all time, or do they have to be continually recast as technology and the strategic environment changes? Colin Gray is quite clear on the matter: ‘To understand modern strategy is to understand it in all ages. The purposes for which humans contend will change, but the deadly game endures.’ He argues that Mahan is (mainly) right, always has been and always will be. Technology may alter the detail but not the essentials of maritime strategy.

John Reeve on the other hand 'reject[s] the view that there are unchanging principles of naval strategy save in all but the very broadest sense, and...argue[s] that strategy is always evolving within the changing context of history'. Distinctions, however, may be drawn between broad and abiding concepts and the much more ephemeral nature of their application in a way which could lead to the conclusion that the higher the level of warfare being dealt with, the more permanent are its essential characteristics. Plainly, this is an issue that strategists need to address; doctrine writers with their concern for the here and now need be less concerned with such metaphysics.¹³

Fourth, are the principles of maritime strategy universal and do they apply to everyone? 'Do second and third class navies', Colin Gray has asked, 'sail in the same waters of theory and military practice as do the navies of the first rank in combat prowess?' and concludes that they do. Ken Booth, on the other hand, disagrees. Mahanian thinking, for example, was 'relevant only to the United States and Britain. It was not relevant to those states with neither the need nor the inclination to use the seas in such ambitious ways.' At the grand-strategic level of what can be done with navies, Colin Gray would seem nearer the mark. It is, for example, easy to draw comparisons between the experience of the Omanis and that of their ancient adversaries, the Portuguese. Both demonstrate systemic linkages between trade and seapower, the need for a modern fighting fleet, continuous struggles for naval supremacy and the despatch of distant expeditions. Bernard Brodie in his classic review of maritime strategy declared, 'No valid conception of sea power can vary according to the psychology or culture of different nations. A concept of sea power is either correct and conforms with the realities of war, or it is wrong.'¹⁴ None the less, local conditions have a major effect on the manner in which such broad ideas are put into effect. During the Cold War, for example, the maritime approach of both sides was determined in large measure by geographical considerations, the resources available for maritime purposes, the decision-making process, access to current technology, perceptions of the strategic environment and of the maritime behaviour of the putative adversary. A navy that is central to the concerns of a powerful country is obviously likely to be more ambitious in its aspirations than the incidental navy of a small and weak one. This leads to the conclusion that the conceptions of maritime strategy are universal, but the extent to which individual countries can (or even want to) realise them may be highly particular. Even so, one of the very basic questions that ought to be asked of any maritime strategist is the extent to which their conclusions apply generally.

Fifth, and finally, how distinctive is maritime strategy? To what extent are navies 'different' from the other services? Traditionalists argue that they are different—and that failing to appreciate the distinctive characteristics of maritime operations may lead to major error. In the case of the Soviet Navy, for instance, Stuart Slade has pointed out the

disastrous effects of trying to impose land-oriented strategic and operational concepts on naval forces. The Soviet navy, in its own eyes and confirmed by its own exercises, was incapable of performing its operational roles until it started to evolve its own distinctive strategies optimised for the unique conditions of naval warfare. The lesson is a salutary one that should be borne in mind by those championing 'joint command' and 'service unification'.⁵

Accordingly, most maritime strategists have been at pains not just to apply general strategic principles to maritime operations but also to explore what is distinctive about them, and what particular benefits maritime success can convey. These differences partly derive from the maritime environment itself. Specifically, the sea is:

- global. The sea is ‘all joined-up’, so a conflict may rapidly spread and forces may quickly be moved across the great majority of the world’s surface.
- largely un-owned and un-ownable. Neutrals may well be present in any area of operation. Possession of the sea is not generally an object of maritime operations. There has never been a maritime ‘front line’.
- three-dimensional. The subsurface, surface and air dimensions of maritime operations may interface at any time, presenting threats and challenges from all azimuths.
- large, opaque, varied and often hostile. Finding the enemy is often the main problem. It took Nelson three months of searching to locate the French fleet at the Nile. For all these reasons the normal ratio of the strength of the defence to the attack (3:1) is often reversed at sea, where, Mahan claimed, the defence was the stronger form of waging war. Moreover, unpredictably shifting winds, water conditions and the weather may determine naval outcomes and make all the difference between success and failure. The sea itself indeed can be an enemy.¹⁶

Again, the nature of the forces engaged in maritime operations have their special characteristics too. They are expensive, hard to replace and even the smallest units represent a sizeable investment in human resources whose loss can be sudden and instantaneous and very hard for publics and governments to bear. Because they range over such a huge area of the world’s surface and may be ‘out of touch’, navies have traditionally developed a sense of independent and delegated command, only now being challenged by modern technology. Famously, Nelson sent no orders or signals during the Battle of Trafalgar.¹⁷

The issue of the extent to which navies are ‘different’ is important because the answer has a bearing on what special capabilities they have to offer and on the extent to which, and the manner in which, they operate alongside the other services. Effective jointery is a tremendous advantage in military operations, but only if it is based on clear recognition of the differences between the services as well as their similarities.

None the less, maritime strategy has evolved, not in a vacuum, but as a subset of general strategic thinking. In many ways, it seeks to apply general strategic principles to maritime operations. Mahan called his dog ‘Jomini’, not apparently intending any disrespect but in recognition of the debt he owed the great Swiss master of strategy, especially for his use of the concept of ‘lines of operation’. Likewise, the debt that Corbett owes Clausewitz, particularly for his stress on the need to relate military means to political ends is obvious from the very first page of his main book.

In just the same way, the concept of ‘principles of war’ (a short, handy summary of ‘broad precepts distilled from experience which influence the conduct of armed conflict and which should inform all strategic and operational decisions’¹⁸) applies as much to maritime operations as to any other. The British list is as follows, the first being the so-called ‘master principle’, the rest being in no particular order of precedence:

- Selection and maintenance of the aim

(the Commander should only have one aim at any time, and it should determine all actions)

- Maintenance of morale
(partly sustained through a common sense of purpose)
- Offensive action
(a state of mind conferring the initiative on the attacker)
- Surprise
(often leads to levels of success disproportionate to the size of forces employed)
- Security
(reduces vulnerability to enemy attack; requires only calculated risks)
- Concentration of force
(having more than the adversary at the decisive time and place)
- Economy of effort
(judicious and cost-effective expenditure on resources)
- Flexibility
(ability to adapt to the unpredictability of military operations)
- Cooperation
(team spirit of all units involved, including other services and national forces)
- Administration
(good staff-work, efficient logistics)

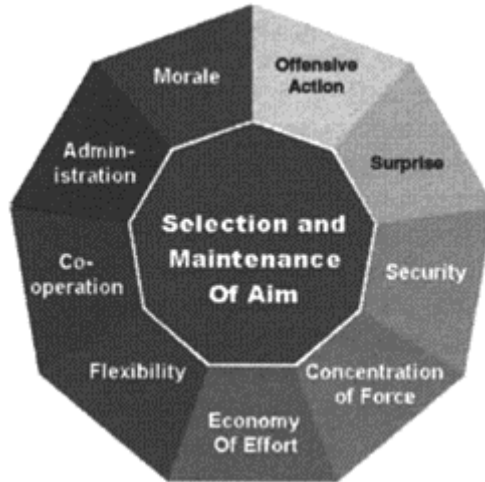


FIGURE 2.1 The Principles of War

This could lead to the conclusion that there is nothing distinctive about maritime strategy and maritime operations, a conclusion that Russian naval thinkers seemed closely to approach in the Soviet era. Thus Admiral Chernavin, the last Commander-in-Chief of the Soviet Navy, wrote:

Today...there is no purely specific realm of warfare. Victory is achieved by the combined efforts of [all branches of the armed forces] which brings about the need to integrate all knowledge of warfare within the framework of a united military science.¹⁹

The general issue of the distinctiveness of maritime operations has long been of interest to strategists, but it has a particular salience for the twenty-first century. The extent to which the concepts of sea, air and land warfare coincide or differ helps determine the way in which they can be brought together in joint operations. Modern preoccupations with jointery accordingly make this an important issue nowadays—not least in the writing of doctrine.

Doctrine

Maritime doctrine is the application of maritime theory in a particular time and place. If maritime theories are about the art of cookery, doctrine is concerned with today's menus. Both are essential. Without strategic theory, doctrine writers would not know where they have been, where they should start and are less likely to be able to work out where they should go; without doctrine, sailors would have either to rely on luck and blind instinct or to convene a seminar to decide what to do when a hostile fleet appears on the horizon.

Doctrine comes at various levels, and tends to be least prescriptive at the higher levels, and most prescriptive when it takes the form of 'fighting instructions' and 'tactical procedures' and where the emphasis is much more on how to think and do things rather than on what to do and what to think about. Doctrine is based on processing historical experience and discovering what the Russians call the 'norms'—or what usually works. But merely having experience is not enough. There is a need to think about it—otherwise, as Frederick the Great famously observed, quite a few of his pack mules would deserve to be field marshals.

The particular aim of doctrine is to give everyone a sense of common purpose, so that they can sustain the attacks of hostile forces (opposing fleets, the other services, treasuries and sceptical politicians) and play their proper part in defeating them. Four things make this particularly important:

- The ever-increasing development of professional specialisations within navies could lead to institutional fragmentation, even in-fighting, if all the diverse tribes are not bound together by a clear sense of purpose and direction. Doctrine, in other words, helps re-aggregate necessarily diversified navies.
- There is growing emphasis on cooperation with the other services, especially in the conduct of expeditionary operations. This requires sailors to be able to understand and articulate their own business clearly, to identify their particular contribution to the exercise and to understand the distinctive approaches and requirements of the other services. For this reason, formulations of naval doctrine need to be in concert with a hierarchical family of associated doctrines for all the services and levels of war.
- There is likewise an increasing need to participate in multinational operations with foreign navies. This calls for the development of a common doctrine about the conduct of multinational naval operations. The development of a doctrine for such operations should help 'reconcile different national security and force structures, allow for

differences in force capabilities, and resolve a range of equipment and procedural interoperability issues'.²⁰

- Navies are increasingly used for tasks such as humanitarian or peace support operations in which traditional notions such as the defeat of an adversary may be a dangerous irrelevance. Those conducting them need doctrinal guidance derived from reflections on the lessons of experience so far.

Inevitably, this all sounds sensible enough but rather abstract. In fact, an inability to identify and agree a clear doctrinal approach to severely practical matters of large-scale life and death can have quite disastrous consequences. A recent study of the American landing on 'Omaha' beach during the Normandy campaign of 1944 attributes much of the disaster to some very basic doctrinal failings on the Allied side. Defective doctrine is quite clearly the high road to defeat. Conversely, as Section 3.8 will show, telling doctrine is a very significant force multiplier.²¹

At the tactical/procedural level (such as NATO's ATP-1 (Allied Tactical Procedures) *Maritime Tactical Signals and Manoeuvring* book)

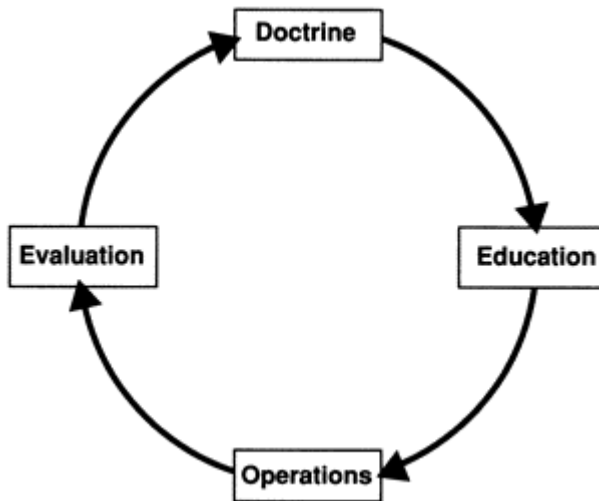


FIGURE 2.2 The Doctrine Cycle

doctrine is largely prescriptive, but at higher levels it is intended to be more than that. Doctrine is supposed to be authoritative in that it establishes a starting point and a sense of direction from which commanders should only depart knowingly. It has been likened to a compass bearing. '[I]t gives us the general direction of our course. We may deviate from that course on occasion, but the heading provides a common purpose to all who travel along the way.'²²

But most doctrinal formulations contain references to the need for judgement in their application. 'Nothing', Corbett tells us, 'is so dangerous in the study of war as to permit maxims to become a substitute for judgement.' Doctrine is not dogma. Long-established principles are there to be questioned, familiar procedures to be adapted to suit particular

circumstances. By stressing the difference between principles (which have an element of free play) and rules (which do not), Mahan made essentially the same point.²³

Moreover the fact that circumstances are always changing means that doctrine needs to be versatile and adaptive and has constantly to be reviewed and developed (see Figure 2.2). The process by which this should take place is often described as a kind of endless circle of formulating doctrine, telling sailors what it is, trying it out operationally and amending it in the light of experience.

2.3 THE EARLY DEVELOPMENT OF THEORY

Table 2.1 shows that maritime strategy is by no means a modern invention. On the contrary, a good deal of thought was devoted to the subject all around the world well before the major surge of interest at the end of the nineteenth century. This list, while by no means comprehensive, makes some things very clear.

First, the most obvious point is that no one country has ever had a monopoly in maritime thinking. It is, however, true that Western expositions are the most well known. The modern dominance of Mahan and Corbett (American and British respectively) is partly a function of their conceptual insight, partly a consequence of the maritime power their countries exhibited and partly because they wrote in what has become the most accessible of the world's languages. Even so, the apparent paucity of theoretical writing on the subject in the Asia-Pacific is puzzling, especially given the richness of China's general strategic writing and of the impressive nature of its maritime power at least to AD 1500. The impact of the writings of Sun Tzu on Chinese and Japanese maritime thinking almost certainly deserves much more study than it has received. Many of these observations apply to the extent and depth of maritime thinking in the Arab world as well.

Table 2.1 The Origins of Naval Thought to 1900
(excluding Anglo-Americans)

Author	Title of work	Year	Country
King Alfonso of Castile	<i>De la guerre que & face por la Mar</i> (Of the War that is Made on the Sea)	1270	Spain
Ahmad Bin Majid	<i>The Benefits and Principles of Oceanography/ Book of Profitable Things Concerning the First Principles and Rules of Navigation</i>	1489	UAE
Suleiman al Malin	<i>Fundamentals for the Mastery of Naval Science</i>	1511	Oman
Antoine de Conflans	<i>Les Faisz de la marine et de la navigaie</i> (On the Nature of the Fleet and Navigation)	1516	France
Alonso de Chaves	<i>Expejode navegantes</i> (Seaman's Glass)	1538	Spain
Pantero Pantera	<i>L'Armata navale</i> (The Navy)	1614	Italy

Comte de Tourville	<i>Signals and Constructions</i>	1691	France
Pere Paul Hoste	<i>L'Art de armees navales ou traité des evolution navales</i> (The Art of Fleets, or a Treatise on Naval Evolution)	1697	France
Vicomte de Morogues	<i>Tactiques naval ou traité des evolutions et des signaux</i> (Naval Tactics or a Treatise on Evolutions and Signals)	1763	France
Vicomtede Grenier	<i>L'Art de la Guerre sur Mer ou Tactique Navale</i> (The Art of War at Sea, or Naval Tactics)	1787	France
Audibert Ramatuelle	<i>Cours Elementaire de Tactique Naval</i> (Elementary Course on Naval Tactics)	1802	France
Guilio Rocco	<i>Riflessioni sul potere marittimo</i> (Considerations of Maritime Power)	1814	Italy
Rear-Admiral Jean Grivel	<i>Considerations navale</i> (Naval Considerations)	1832	France
Rear-Admiral Jean Grivel	<i>De la Marine Militaire</i> (On the Fleet)	1837	France
Lt Capt. V. Berezin	<i>Morskaya Taktika</i> (Naval Tactics)	1880	Russia
Stepan O.Makarov	<i>Discussion of Questions in Naval Tactics</i>	1898	Russia
Domenico Bonamico	<i>Il Potere Maritime</i> (Maritime Power)	1899	Italy

Second, most of these explorations were by no means limited to, nor indeed were particularly interested in, narrow naval concerns. In addition to providing a great deal of information on navigation in the Indian Ocean, Ahmad bin Majid, the 'Lion of the Sea', emphasised the financial benefits to be expected from sea trade, and provided much advice to mariners to help them set about it. As the titles of their books suggest, Giulio Rocco and Domenico Bonamico were also both concerned about the much broader aspects of maritime power and on what it could do for Italy.

Third, where the focus of maritime theory did apply to the employment of naval forces, it widened and deepened as time went on, from the narrowly tactical and technical to the comprehensively strategic. The starting point was often a concern to provide guidance on how to improve chances for victory in battle. Chaves, for example, offered advice on the advantages of taking the weather gauge, on forming naval units in squadrons, on ways of manoeuvring in order to maximise combat potential. This was also the basic message of de Tourville, de Morogues, John Clerk of Eldin and of the long string of *Fighting Instructions* issued by the British Admiralty from 1653. Through the eighteenth century, there was a growing tendency to focus on ways of improving the coherence of fleet formations and the effectiveness of command and control arrangements by recommending improvements in naval signalling. These books were full of diagrams describing patterns of advance and analysing the respective merits of various fleet formations and angles of attack.²⁴

The overriding preoccupation in such works was how to manoeuvre the fleet in order to maximise its firepower. The aspiration was to be able to put the whole of your force against part of the enemy's, and to prevent his doing that to you. These sources of advice were constantly adapted in light of evolving experience, focused largely on the conduct of battle and the tactical level of war and were offered as authoritative doctrinal guides. They were often prescriptive, even directive, in tone and focused on battle tactics.

The eighteenth century was an era in which naval officers were court-martialled, and sometimes shot, as a result of combat failure brought about by not appearing to adhere to the rules laid down in the *Fighting Instructions*. Ever since, this has given doctrine a bad name, because it was seen to lead to commanders 'sticking to the book', in the hope that this was their best guarantee of not failing. John Clerk was very concerned about the consequences of this, and anxious to rectify matters. For him, the last straw was the 'feeble and undecisive' attack launched in 1781 by Vice-Admiral Graves at the Chesapeake on the French fleet, the failure of which led to his abandoning Lord Cornwallis and his 'fine army' at Yorktown—and for that matter much of British America too—to their fate (see Figure 2.3).

This was just the latest instance of the British being 'baffled' by the French, and unable to achieve their battle aims. Clearly this could not possibly be explained by any 'Want of spirit in our seamen', so it must be due to the fact

...that our enemy, the French, having acquired a superior knowledge, have adopted some new system of managing great fleets, not known, or not sufficiently attended to by us...or that, on the other hand, we have persisted in following some old method, or instructions, which from later improvement, ought to have been rejected.

Specifically, Clerk thought that the Royal Navy had become fixated on only attacking from windward, and this had led to its ignoring many other productive possibilities. The problem was caused, Clerk concluded, by the Royal Navy's 'total neglect of Naval tactics':

Though a superior degree of knowledge in naval affairs be evidently of the utmost consequence to the inhabitants of this island, yet the subject of Naval tactics had long remained among us in a very rude and uncultivated state.²⁵

Clerk was determined to change this. Like many other writers on maritime strategy, his intention was not merely to engage in idle pen-pushing, but actually to have a practical effect. His was intended to be a practical guide for naval professionals. The Royal Navy certainly took a more innovative and risk-taking approach to the conduct of battle by the end of the eighteenth century—but it is difficult to establish causal links between this and Clerk's efforts, as we have seen.

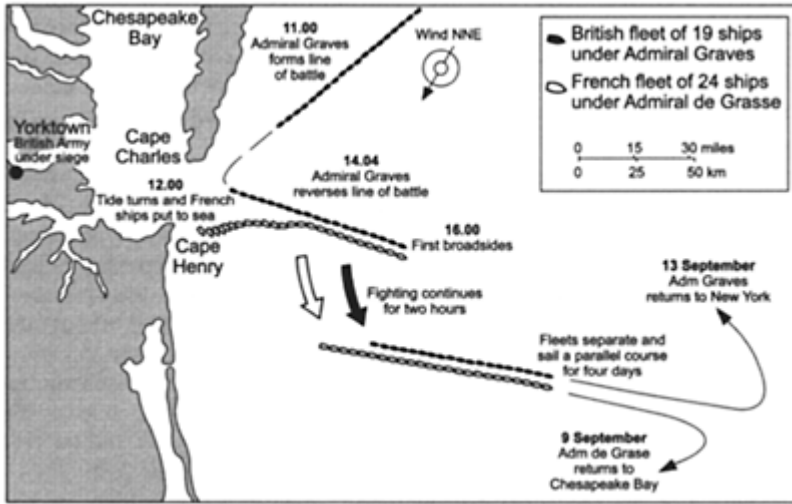


FIGURE 2.3 The
Yorktown/Chesapeake Campaign,
1781

Fourth, the incentive for abstract thinking was often an attempt to assess the implications of technological and other change. When the industrial revolution began to effect changes in the size and shape of the fleet, maritime writers began to address its possible consequences for the conduct of naval warfare. General Henri Paixhans in the 1820s was among the first. He advocated the rapid building of a fleet of modern iron-clads, with a few large guns, that would blow the British out of the water. In this, he ushered in an era in which rapidly changing naval technology resulted in a huge diversity of opinion on the issue of how navies would perform their tasks. Some foresaw a shift from one role to another. Admiral Jean Grivel, for example, wanted France to concentrate on producing a machine-age fleet maximised for a war on commerce. In his book, *Discussion of Questions in Naval Tactics*, Russia's remarkable and versatile Admiral Stepan Makarov dealt with the torpedo-boat tactics for which he is famous, but ranged widely over the whole field of new technology and its impact on the conduct of maritime operations. His emphasis was deliberately on the tactical/technical level of war. To him the precise technical details of the best cable grapnel was a subject worthy of detailed analysis, alongside command, leadership and the operational significance of innumerable British naval campaigns.

But all of this was merely a prelude for the dramatic explosion of naval ideas that occurred at the end of the nineteenth and the beginning of the twentieth centuries.

2.4. MAHAN AND THE BLUE-WATER TENDENCY

“It’s a tremendously interesting subject,” said Davies, pulling down (in two pieces) a volume of Mahan’s *Influence of Sea Power*. Dinner flagged (and froze) while he illustrated a point by reference to the much-thumbed pages. He was very keen, and not very articulate...

“They’ve [the Germans] got no colonies to speak of, and *must* have them, like us. They can’t get them and keep them, and they can’t protect their huge commerce without naval strength. The command of the sea is *the* thing nowadays, isn’t it? I say, don’t think these are my ideas,” he added naively. “It’s all out of Mahan and those fellows.”

...I knew just enough to be an intelligent listener and though hungry was delighted to hear him talk.

“I’m not boring you, am I?” he said suddenly.

“I should think not,” I protested. “But you might just have a look at the chops.”

Erskine Childers, *The Riddle of the Sands*

These heroes of Erskine Childers’ famous novel of 1903 were typical of the sailors of the early twentieth century in their awed admiration for the work and views of the American naval officer, Alfred Thayer Mahan. But, like most others then and since, they had doubtless read and understood but few of the great man’s works.

Mahan was born in 1840, the son of a professor at West Point Military Academy. He joined the US Navy and developed a strong interest in history. Inspired by reading Mommsen’s *History of Rome* in the library of Lima’s English Club, he began to think about seapower, its role and importance, and eventually joined the staff of the new US Naval War College at Newport, Rhode Island, as lecturer. *The Influence of Sea Power upon History 1660–1783*, his most famous book, was published in 1890, to enormous acclaim. Many others followed before he died in 1914.²⁶

Mahan and his generation benefited from a rise in interest in naval history as a repository of experience to process. This owed much to the pioneering work of Professor Sir John Knox Laughton, both for establishing the validity of naval history as a subject and for starting the process of dealing with it professionally. With this kind of help, Mahan went on to produce something like 5,000 pages of published text in his writing career between 1883 and 1913. Over this long period, his opinions changed, or drifted into self-contradiction. In the manner of his time, his English was mellifluous, his sentences long and complicated, his approach to the study of naval history chronological rather than thematic, with discussion and analysis sprinkled throughout in a way which made summary of his views difficult. The one book in which he sought to bring his ideas together, *Naval Strategy*, was one of his least satisfactory, both for him and for his

readers. For all these reasons, Mahan is very easy to misinterpret and oversimplify, and has become the butt of much unjustified abuse.²⁷

Essentially, Mahan built strategically on existing ideas about maritime activities, which were, as we have seen, largely tactical in their approach, and made some attempt to situate naval thinking in the broader context of the strategic thinking represented by the likes of Clausewitz and Jomini. To a much greater degree than is generally recognised, Mahan addressed the place of seapower in the theory and practice of international politics.²⁸

His ideas are not easy to summarise accurately, but there is little doubt that his main concern was to correct the widespread ignorance he found around him about the role and importance of seapower even amongst seafaring peoples. In peacetime, national power, security and prosperity depended on the sea as a means of transportation. In wartime, seapower resulted from naval supremacy and provided the means of attacking the enemy's trade and threatening his interests ashore whilst protecting your own. These advantages were so great that, as the history of Britain in the period he studied clearly demonstrated, the sea powers would prosper in peace, prevail in war and dominate world events. He concluded: 'Control of the sea by maritime commerce and naval supremacy means predominant influence in the world...[and] is the chief among the merely material elements in the power and prosperity of nations.'²⁹ Mahan was careful to say, however, that the importance of seapower can be exaggerated: it was 'but one factor in that general advance and decay of nations which is called their history'.³⁰

Seapower revolved around a simple connection. Trade produces wealth that leads to maritime strength. Naval strength protects trade, and in turn depended on:

- geography (access to sea routes, etc.)
- physical conformation (ports, etc.)
- extent of territory
- population
- character of the people
- character of government.

Naval strength was most obviously expressed by the number of battleships you had and how effectively they were deployed against an opponent's:

a navy which wishes to affect decisively the issues of a maritime war must be composed of heavy ships—'battleships'—possessing a maximum of fighting power, and so similar in type as to facilitate that uniformity of movement and of evolution upon which concentration...must depend.³¹

There was, in many of Mahan's books, a strong focus on battle between concentrations of heavy warships as the ultimate decider of naval power. The outcome of battle depended not merely on the quality of the ships present, however, but on training, morale, the effectiveness of command, tactical disposition (in particular, skill in pitting all of your force against a portion of the opponent's) and, above all, on an offensive spirit—the desire to close and destroy. It is because of Mahan's emphasis on the destruction of the adversary's main battle force, that he is sometimes likened to Clausewitz who said much the same about the conduct of battle on land.

Before moving on to other parts of Mahan's philosophy, it is worth entering a few caveats at this stage:

- Mahan was perfectly willing to concede that battle was not always necessary. The opponent could well be so strategically cowed by superior forces that battles would be few and far between. It might well be that naval supremacy 'appears only in the background...striking open blows at rare intervals'.³²
- Mahan's emphasis on naval supremacy did not mean that smaller fleets were powerless. '...[I]t is not necessary to have a navy equal to the greatest, in order to insure that sense of fear which deters a rival from war, or handicaps a rival from war...A much smaller force, favourably placed, produces an effect far beyond its proportionate numbers...'³³
- Simply relying on brute force was not enough. War is a business 'to which actual fighting is incidental. As in all businesses, the true aim is the best results at the least cost; or, as the great French admiral, Tourville, said two centuries ago, "The best victories are those which expend least of blood, of hemp and of iron." Such results...are more often granted to intelligent daring than to excessive caution.'³⁴

Naval supremacy conferred by such means made the commercial blockade possible; this was the only real way by which the enemy's trade could be choked off and decisive strategic effects achieved. It was one of the truest expressions of seapower and was much more likely to be effective than the alternative concepts of the *guerre de course*. A full-grown maritime trading system was much too strong to suffer vital harm through such isolated and localised attacks. 'A strong man cannot be made to quit his work by sticking pins in him.'³⁵

Contrary to the claims of some of his critics, Mahan *did* deal with the effects of naval warfare on the strategic situation ashore, although it was a relationship more implied than described. In the book that more than any other made his name, the Yorktown campaign was addressed at some length. By failing to prevent the arrival of French and American reinforcements and supplies to the forces besieging a small British army at Yorktown, and by failing vigorously to contest the French Navy's control of the waters around it, the Royal Navy consigned British America to defeat; correspondingly, the French Navy exerted a decisive impact on events ashore, and maybe even changed their outcome. But apart from quoting generalised comments from both Washington and Clinton there is little real explanation of how this all worked. In large measure, it is a consequence of Mahan's failure to address the operational level of war, to be discussed in Section 2.7.³⁶

The criticism that Mahan failed to deal with the other things that navies do has also to be much moderated. In fact, his first book, *The Gulf and Inland Waters* (published in 1883) was about what would now be called riverine and littoral operations in the American Civil War, with something of a stress on small-ship warfare and joint operations. Mahan was clear that the North's success by a series of such campaigns in seizing New Orleans, Mobile and the Mississippi split the South and drained its war economy and generally facilitated the victory of the North. Moreover, he was certainly aware of the importance of effective coastal defence. But Mahan's point was that naval supremacy was a prerequisite to all this, and naval forces should not be drawn away from the central struggle for sea control in order to participate in these lesser activities. 'Seaports', he concluded, 'should defend themselves: the sphere of the fleet is on the

open sea, its object offence rather than defence, its objective the enemy's shipping whenever it can be found.³⁷

The Influence of Mahan on Seapower

The kind of ideas that Mahan expressed caused the United States to discard its nineteenth-century emphasis on coastal defence and commerce raiding and instead to embark on the acquisition of a first-rate battlefleet eventually able to take on all comers in what the French called 'La Grande Guerre'. The extent to which thinkers like Mahan can be considered directly *responsible* for such policy shifts remains problematic but they certainly heavily affected the atmosphere of assumptions in which policy-makers actually made their decisions.

Around the world other Mahans appeared, sometimes operating independently, such as Admiral Philip Colomb (1831–99 in Britain), or consciously applying Mahanian ideas to the context of their own countries (such as Russia's Admiral Nikolai Klado). The Japanese provide a good example of the way this worked. Akiyama Saneyuki and Sato Tetsutaro were nationalists who took Mahan's ideas on board but who also looked for inspiration to other authorities in their own strategic literature and to the recent experience of their own navy in recent wars against China and Russia. France's Admiral Raoul Castex (1878–1968) in many ways followed the earlier example of compatriots Gabriel Darrieus (1859–1931) and René Daveluy (1863–1939) in giving Mahan a French spin, and putting his views into a wider intellectual context. His five-volume series *Théories Stratégiques* (1927–35) is a comprehensive review of classical maritime theory, with more than a dash of Corbett thrown in and some quite distinctive ideas on *manoeuvre* (for which see Section 2.7).³⁸

As in all intellectual movements, it is hard to discern who exactly was responsible for saying what. Differences in outlook, personality, background or national circumstance also inevitably led to differences in emphasis, but the broad thrust of a maritime strategy that focused on the struggle for naval supremacy by offensive action on the open ocean was widely accepted.

These ideas seemed confirmed by the experience of the Great Powers in the two world wars (although the success of the German U-boat campaign in the First World War caused some wobbles, as we shall see). Not surprisingly, therefore, the US and the British Navies went into the Cold War era with a set of very 'Mahanian' attitudes and assumptions, despite the simultaneous advent of nuclear weapons. Hence the stress on the 'offensive spirit' and of moving forward in Europe's northern waters in order to contain a Soviet submarine threat that might otherwise prove fatal for NATO's plans to reinforce and re-supply western Europe across the Atlantic. In the late 1940s and much of the 1950s, these ideas resulted in the 'attack at source' posture of carrier air-strikes against Soviet naval bases in northern Europe.³⁹

Interestingly, their main adversary of the time, the Soviet Navy, increasingly demonstrated similar views, particularly the requirement to move its naval forces forward and to engage with the opponent aggressively. Indeed, in his 1976 book *The Seapower of the State*, Admiral Sergei Gorshkov claimed his Tsarist predecessors had to all intents and purposes invented the concept of command of the sea. Some 20 years before Mahan, Colomb and other Western prophets of the faith, Lieutenant-Captain Berezin had written:

'it is necessary to gain this dominance by inflicting defeats...on the hostile fleet and only then establish a blockade seeking to destroy the sea trade of the enemy and all his transport by sea'.⁴⁰

Mahan would have had no problem in agreeing with such sentiments. Nor apparently did Gorshkov when the Soviet Navy in its prime was able to think about seriously contesting for sea control with Western navies. In the second version of his book (1979) Gorshkov devoted some 4,000 words to 'Sea Dominance'. 'History', he concluded, 'does not know of a more ancient and harder concept.' When he was charged by an American admiral with sounding very Mahanian, Admiral Gorshkov replied 'And why not? The man was eminently sensible.'⁴¹

The US Navy's *The Maritime Strategy*, the public version of which appeared in 1986, was an even more dramatic demonstration of the fact that the Mahanian tradition was alive and well in the late twentieth century.

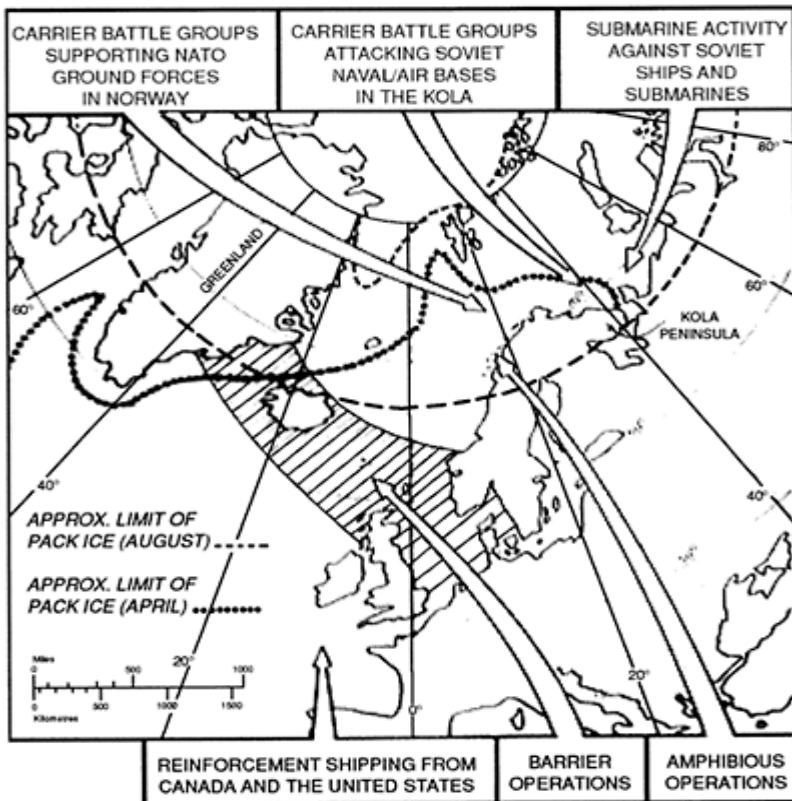


FIGURE 2.4 The Maritime Strategy

Whether those who produced it were conscious of the details of Mahan's legacy remains problematic, but the extent to which he contributed to the atmosphere in which the strategy was put together is beyond dispute. The purpose of *The Maritime Strategy*, as

described by George Baer, 'was to establish an internal consensus on the offensive value of the forward-deployed, big fleet triphibious Navy and, with Mahan's admonitions ever present, to engage public as well as professional support'.⁴²

The Maritime Strategy (soon in effect to be accepted as NATO's Concept of Maritime Operations (CONMAROPS)) was an unashamedly offensive plan to seize the initiative by taking on the Soviet fleet in Europe's northern waters and the north-west Pacific, thereby providing the conditions for the most effective defence of NATO's *sea lines of communication* (SLOCs) across the Atlantic, strikes on the opponent's home territory and the support of forward allies like Norway, South Korea and Japan.

Amongst the many criticisms levelled against *The Maritime Strategy* (also discussed in Section 6.5) was that it envisaged an independent maritime campaign that had precious little to do with the grim air/land war realities of the European Central Front and that it would jeopardise the humdrum business of the direct defence of NATO's SLOCs. In this it was held by its critics to echo Mahan's obsessive concentration on the offensive pursuit of battle at the cost of everything else.⁴³

But this was unfair. One of the principal justifications for *The Maritime Strategy* was to improve the 'correlation of forces' on the central front, by posing an outflanking threat to the north and threatening the Soviet Union's all-important ballistic missile submarines. It might not have worked, but that was certainly the intent. In similar manner, the US Navy's leaders held that maritime forces of the sort needed for a campaign of this kind would also be able to protect a wide range of US interests around the world, in rather more peaceful times.

In this, the US Navy was also echoing an element in Mahan's original philosophy that is often overlooked by his detractors, who generally tend to focus their attention on his thoughts on battle and naval supremacy, almost to the exclusion of everything else. As Jon Sumida has recently shown, however, Mahan was also concerned with wider and broader aspects of maritime power in which its function was to defend the international trading system on which the world's peace and prosperity seemed to depend. Arguably, and as we shall see in Chapter 11, he even anticipated a situation in which this protective function would need to be exercised by a transnational coalition, because the peoples of democratic countries like Britain and the United States would never be willing to provide their navies with enough resources to perform the task on their own.⁴⁴ In this way too, it would seem that, despite its obvious blue-water preoccupations, the Mahanian tradition, fully understood, retains a good deal of contemporary relevance for the twenty-first century.

2.5 CORBETT AND THE MARITIME TRADITION

Sir Julian Corbett (1854–1922) came late to maritime affairs and associated with the great men ushering the Royal Navy painfully into the twentieth century. Deeply concerned about the poverty of contemporary naval thought, he sought to improve it partly through lectures at the Naval War Colleges at Greenwich and Portsmouth. Evidently, he did not enjoy the experience, complaining in one letter: 'My strategy lectures are very uphill work. I had no idea when I undertook it how difficult it was to present theory to the unused organs of naval officers.'⁴⁵

His teaching was supported by an impressive list of naval histories, including several on the Tudor and post-Tudor Royal Navy, a masterpiece on the Seven Years' War, a two-volume work on maritime warfare in the Mediterranean, a staff history of the Russo-Japanese War, *Some Principles of Maritime Strategy* in 1911, and the first three volumes of the Official Naval History of the First World War.

Paradoxically, Corbett did most of his writing in that particularly interesting period just before the First World War, when Britain was actually moving away from the kind of strategy that he advocated.

Corbett on the Value of Theory

From the start, Corbett was interested in uncovering the principles that lay beneath the conduct of maritime operations. One of his earliest works was a study of the evolution of the Royal Navy's *Fighting Instructions*. At Greenwich and elsewhere, he successfully challenged the all-too-common preconception that lessons deduced from the age of sail were irrelevant to the concerns of the naval officers of the machine age. As Bryan Ranft has justly observed, Corbett's defence rested on the way in which he defined such lessons and principles.

Corbett did not claim that historical study would produce detailed rules for the future conduct of battles and campaigns. Its value lay in bringing to light the permanent characteristics of sea power and the specific nature of its contribution to national strategy; what it could achieve and what were its limitations. Equipped with these insights, the contemporary naval commander would have a pattern of past experience, what had succeeded, what had failed, against which to assess his present situation and desirable course of action.⁴⁶

Corbett's approach to this problem can be seen in his treatment of Drake. On the one hand he lamented the fact that 'in the Elizabethan age, the principles of naval warfare were as little understood as its limitations' and applauded the efforts of such as John Montgomery to produce a set of ideas in 1570 'so sound and so strikingly modern in its ring'. On the other hand, he admired Drake for his readiness, when applying such principles constructively 'to break rules'. Corbett clearly took the principles of war to be a guide to thought rather than directives for action.⁴⁷

Corbett on Seapower and Policy

As a lawyer, Corbett had a more judicious sense than Mahan of the limitations of seapower, and quite crucially therefore of its place in the wider scheme of things. What is special about Corbett is his emphasis on the importance of putting naval operations in that broader context which does so much to explain their form and purpose, and which, in his view, was affected so much by their result.

Corbett emphasised that strategy needs to be consciously related to foreign policy. Having digested his Clausewitz, Corbett was well aware of the fact that war was a political act and that the first function of the fleet was 'to support or obstruct diplomatic

effort'. He took an overtly *political* approach to seapower; maritime strategy should serve the interests of the state, and in war and peace the type of strategy a navy adopted should reflect national objectives. Corbett was particularly interested in *limited* maritime wars, which were more political than most but allowed a country's rulers carefully to weigh the costs of war in order to compare them with the benefits. Because maritime operations were more controllable in the sense of being less prone to ruinous escalation, they were often particularly cost-effective when compared with ordinary, messy land operations.⁴⁸

Perhaps not unnaturally given his more adversarial age, the focus of most of his writing was none the less on the directly military characteristics of seapower. His preoccupation was with war, not peace—although he was always anxious to demonstrate the connections between the objectives of war and its form. Chapter 9 shows that it was left to analysts of a much later generation to explore the characteristics of what has since become known as naval diplomacy.

Corbett on the Maritime Approach

Naval strategy has to be related to land strategy:

Of late years the world has become so deeply impressed with the efficacy of sea power that we are inclined to forget how impotent it is of itself to decide a war against great Continental states, how tedious is the pressure of naval action unless it be nicely coordinated with military and diplomatic pressure.⁴⁹

Naval strategy has to be seen not as a separate entity but simply as part of the art of war. Landpower and seapower are *not* in opposition, but their relationship with one another will be different for 'world wide imperial states, where the sea becomes a direct and vital factor' than it would be for those for whom geography makes the 'German or Continental School of strategy' more appropriate. Britain of course was pre-eminently just such a maritime state and had derived enormous benefit from developing a set of principles governing the conduct of war 'in which the sea is a substantial factor'. But this certainly should not mean the British neglecting the use of armies:

Since men live upon the land and not upon the sea, great issues between nations at war have always been decided—except in the rarest cases—either by what your army can do against your enemy's territory and national life or else by the fear of what the fleet makes it possible for your army to do.⁵⁰

Sea powers could not defeat land powers on their own but, in conjunction with allies on land, they could determine the outcomes of wars and the nature of the peace.

Britain, he thought, had developed a style of maritime war which combined naval and military power in a uniquely beneficial way. It had allowed the British to 'become a controlling force in the European system' and to maintain and extend their interests by manipulating the balance of power in continental Europe. This they had done by the controlled and careful application of maritime power in peace and in war. Because the

secret of British success lay in the combination of land and sea power, Corbett used the word 'maritime' when he reviewed the strategy of seapower rather than the much narrower term 'naval' that Mahan tended to use.⁵¹

This is a significant difference between the two. As far as Corbett was concerned, naval strategy was about the disposition, movement and immediate purposes of the fleet; this cascaded down from maritime strategy that decided the role of the fleet in relation to land forces. Accordingly, the exact balance to be struck between the naval and the land components of a maritime strategy would depend on general national circumstances (for some nations were clearly more maritime than others) and also on the particular strategic exigencies of the moment. Corbett was at his most interesting on this point when dealing with the Russo-Japanese War (1904–5). This was a struggle involving one very maritime power, Japan, for the possession of a very maritime prize, namely the peninsula of Korea. Not surprisingly, therefore, the naval element of Japan's strategy would in many cases predominate in a situation in which 'everything turned on the sea factor'. He approved of the way in which the Japanese evolved a joint staff, the detailed mechanics of which rested on this conclusion. He also pointed out that operational priorities between naval and military requirements in what was essentially an amphibious war often had to give precedence to the naval dimension even if this caused tensions with the army.⁵²

None the less, Corbett did not neglect the legitimate demands of the land war, even in a maritime environment. Given the circumstances, he thought, 'it is obvious that a war framed on these lines demands a very accurate co-ordination of the land and sea forces. This is, indeed, the paramount necessity.' Once the Japanese fleet had concentrated,

the movement of the two services goes hand in hand and our standpoint must be one from which the operations both on land and at sea can be kept in view as closely and clearly as possible. The war, in fact becomes essentially amphibious, and so intimately are naval and military operations knit together in a single theatre that the work of the one service is unintelligible apart from that of the other.

Equally obviously, in less maritime conflicts, the land element could be expected to predominate, but in this case, the naval element might need to be defended.⁵³

Corbett argued that navies should accommodate themselves to the simple fact that in the last analysis it was upon the land that mankind's destiny was decided. Some have taken this argument further, to raise doubts about whether the whole idea of having a 'naval strategy' actually makes sense in that, by definition, naval objectives can therefore rarely be strategic. This view was espoused by the Soviet general staff in the Cold War era. It also underlies an interesting conclusion reached by the US Navy's Captain Wayne Hughes:

there is no *naval* strategic warfare...A maritime campaign by a maritime nation aims at sea control as the means not end, because strategy prescribes wartime goals and missions governed by purposes on the land.⁵⁴

Corbett did not go as far as this, for two reasons. First, some naval activities could have strategic consequence for events ashore (the launching of major amphibious operations, a commercial blockade). Second, navies could be at their most strategic in the *limited* wars and expeditions for which they were ideally suited.

Corbett on Limiting Liability and Increasing Cost-Effectiveness

One of the great advantages of seapower as an arm of national strategy, Corbett thought, was its particular utility in situations of limited conflict. Where the protagonists were not neighbours, where distance made retaliation difficult, and where geography helped isolate or at least contain the extent of any fighting, any conflict could be limited. The nation with command of the sea was in the best position to choose how much or how little of the conflict it wanted. Maritime powers could limit their liability in ways that others could not.⁵⁵

Corbett's was a strategic approach which limited liability if things went wrong, for as Sir Francis Bacon remarked,

This much is certain, that he that commands the sea is at great liberty, and may take as much and as little of the war as he will. Whereas those that be strongest by land are many times nevertheless in great straits.⁵⁶

Power at sea provided opportunities for the British to make limited interventions for limited objectives in unlimited wars. Through this capacity to exert influence on the continent of Europe from outside, the British, unlike many of their more land-bound competitors, had been able to develop a uniquely business-like approach to the otherwise messy and wasteful processes of war. They generally tried to avoid expensive large-scale military commitments to the continent of Europe, and its ferocious wars. Instead, the British had done their best to limit their involvement to the financial support of continental allies and to the exertion of maritime pressure (through blockade, the threat of amphibious landings, attacks and raids on threatened coastlines and through the seizure of their adversaries' far-flung colonies and bases).

Accordingly, the maritime strategy that Corbett advocated required the kind of army that could work with the navy to conquer overseas territories and to outflank land-bound adversaries with amphibious operations, 'more or less upon the European seaboard designed, not for permanent conquest, but as a method of disturbing our enemy's plans and strengthening the hands of our allies and our own position'.⁵⁷

This was, Corbett thought, as we saw in Section 1.7, an immensely cost-effective approach to the business of war. Command of the sea, and the opportunities it provided, explained how it was after all,

[t]hat a small country [Britain] with a weak army should have been able to gather to herself the most desirable regions of the earth, and to gather them at the expense of the greatest military Powers...⁵⁸

Corbett on Command of the Sea and the Decisive Battle

While command of the sea was ideally won or maintained by *decisive battle*, this was often not easily or quickly achieved against a reluctant enemy; in such cases, a blockade could be imposed either to neutralise that enemy or to force him to battle. High levels of such command greatly facilitated the strategic use of the sea, but were not always possible and sometimes were not necessary.

Command of the sea implied its control as a medium of communication; the enemy's commercial and military shipping could be attacked, and yours protected. Your military forces could be moved about in safety and his attacked.

The obvious method of achieving command of the sea was to *force* a battle on the enemy's naval forces, destroy them and decide the matter once and for all. The Royal Navy was always attracted by the notion of the decisive battle as the optimum means of winning command of the sea. Their view just before the First World War was usefully summarised for the benefit of the 1902 Colonial Conference:

The primary object of the British navy is not to defend anything, but to attack the fleets of the enemy, and by defeating them to afford protection to British Dominions, supplies and commerce. This is the ultimate aim...The traditional role of the Royal Navy is not to act on the defensive, but to prepare to attack the force which threatens—in other words to assume the offensive.⁵⁹

But Corbett warned that this 'old British creed', although generally admirable and effective, could be taken to excess. In some circumstances, it could lead to a distraction from the real aim of the war. He also pointed out that Britain's adversaries, whose naval forces were normally weaker, often sensibly sought to avoid battle with the Royal Navy. This being so, the British needed to be on their guard against the danger of trying too hard in this direction, lest such purist aspirations undermine their practical capacity to use the sea as fully as they often needed to in the meantime.⁶⁰

Although, in order to avoid the men with blue pencils, Corbett's account of the Battle of Jutland was a subtle matter of nuance, some members of the Board who read the draft did not like it, even if they did not quite know why, and had inserted in the final volume a note to the effect that

Their Lordships find that some of the principles advocated in the book, especially the tendency to minimise the importance of seeking battle and of forcing it to a conclusion, are directly in conflict with their views.⁶¹

Afterwards, this 'sea heresy' continued to be attacked. An anonymous contributor to the *Naval Review* of 1931 said of Corbett that,

He had a legal training and mind, which was shown in his preference for getting the better of the enemy in some other way than coming to blows...his teaching did not preach that to destroy or to neutralise the enemy's armed force was the primary military aim leading to a military decision. As an example one may look at his 'Principles of Maritime Strategy' and see, out of 310 pages, how many are devoted to 'Battle'....

Is it too much to say that Lord Fisher's Baltic Scheme, Mr Churchill's naval Brigade, even the Dardanelles Expedition, were instances of 'ill digested Julian Corbett's "Seven Years War"'?⁶²

This shows that it was where Corbett most irritated his naval audiences that he should have done them the greatest good. Over and over again, Corbett sought to remind sailors that command of the sea should not be seen as an end in itself, and that it was a relative concept. Absolute command of the sea was little more than an ideal; high levels of command of the sea were extremely difficult to achieve—and to a surprising extent unnecessary. Even in a profoundly maritime war, all sorts of useful military manoeuvres could be conducted without it. In 1903, the Russians decided 'they could succeed without getting the command. By merely keeping it in dispute they would gain time enough to bring their vastly superior military strength to bear.' It was equally proper for the Japanese to conclude that in such circumstances they could conduct amphibious operations without securing command of the sea first.⁶³

It is important, however, not to exaggerate the extent of Corbett's scepticism about command of the sea and decisive battle. He acknowledged that the concerted pursuit of these two central objectives of 'Mahanian' maritime strategy was usually valid. It was only his willingness to say that sometimes it might not be, that got him into trouble with the Admiralty.⁶⁴

Corbett was concerned about the unremitting pursuit of command-through-battle for four reasons. First, it might well prove nugatory in those all-too-common situations where a weaker adversary declined the invitation to his own execution. Second, it might not work for good operational reasons. Third, concentrating on the rigorous requirements of securing command could easily damage a navy's capacity to exploit that command (or the lack thereof), particularly through amphibious operations, but also through campaigns against, or in defence of, shipping. Command of the sea in itself did not win wars or decide political outcomes, but being able to exploit (or sometimes deny) that command very well might.⁶⁵

Fourth, and perhaps most importantly, the pursuit of the decisive battle could so easily make it difficult for sailors and others to see what seapower was really about. Thus,

We require for the guidance of our naval policy and naval action something of wider vision than the current conception of naval strategy, something that will keep before our eyes not merely the enemy's fleets or the great routes of commerce, or the command of the sea, but also the relations of naval policy and action to the whole area of diplomatic and military effort.⁶⁶

All too often, he thought, the simple-minded (in uniform and out of it) confused the incidence of dramatic battle with the role and importance of seapower. They were not the same thing at all.

Corbett on Amphibious Operations

With command of the sea you could use the sea as a means of transportation, both commercial (to supply the war economy) and military (to facilitate the projection of power ashore).

Based on evidence such as the capture of Havana in 1762, Wolfe's Canadian operations in the Seven Years' War, Wellington's Peninsula campaign—surely the quintessential combined operation—and the Crimean War, Corbett argued that properly conducted amphibious operations could indeed be the means by which sea powers could help decide the outcome of wars. Maritime supremacy allowed them to strike at their enemies' weakest points.

Critics responded at two levels, then and since. First, amphibious operations rarely proved as strategically decisive as Corbett claimed. Second, modern technology was making them too difficult anyway.

On the first point, Corbett stuck to his guns. His basic proposition about the disastrous Gallipoli campaign of 1915, for instance, but more generally too, was that 'the continental method' of striking decisively 'where the enemy's military concentration was highest' only made sense where there was 'sufficient preponderance of force to ensure a decision'. In his view, this was not the situation on the Western Front, and it was therefore best to 'postpone offence in the main theatre and devote our combined energies' to improving the strategic balance by striking elsewhere.⁶⁷

On the second point, Corbett responded that even the Gallipoli campaign showed such operational challenges could be overcome. The Suvla landings of August 1915 were a distinct improvement on the Helles and Anzac landings of April. Moreover, the withdrawal in December 1915 and the following January of 120,000 troops from under the noses of the Turks was a splendid indication of the level of improvement achieved in all aspects of amphibious warfare:

In that marvellous evacuation we see the national genius for amphibious warfare raised to its highest manifestation. In hard experience and successive disappointments, the weapon had been brought to a perfect temper, and when the hour of fruition came to show of what great things it was capable, it was used only to effect a retreat.⁶⁸

Disciples and Fellow Travellers

Corbett no more wrote in a vacuum than did Mahan. Many commentators have pointed out where he was being Clausewitzian (keeping naval strategy alongside its political purposes) and where he was not (doubts about the centrality of battle). Others have likened Corbett's approach to the clever manoeuvrism of Sun Tzu with his emphasis on winning most at least cost and on the notion of deceptive concentration that will be looked at in Section 2.7.

More immediately, there were others writing on related topics at much the same time, most obviously Major General Sir Charles Callwell (1859–1928). Callwell went on eventually to become Director of Military Operations at the British War Office, but was

also a prolific author. Amongst the most significant of his works are: *Small Wars: Their Principles and Practice* (1896); *The Effect of Maritime Command on Land Campaigns since Waterloo* (1897); *Military Operations and Maritime Preponderance* (1905); and *The Dardanelles* (1924).

Of these, the first book is by far the most original but its main thrust is different from the other three and is discussed later, in Section 8.1. The central tenets of Callwell's approach can be found in the second and third of these works, and an analysis of their practical application in the last. The most superficial skim through these works shows that Callwell provides an exact fit with Corbett over the core issue of the way in which seapower and landpower should be mutually supportive in a properly constructed maritime strategy. Like Corbett, Callwell pointed to the American War of Independence, the Crimean campaign of 1856 and the Russo-Japanese War as demonstrating the extent to which land campaigns may depend on command of the sea. In the many cases, where the military balance ashore depended on reinforcements and supplies coming across the sea, maritime preponderance was essential. But, rather more explicitly than Corbett, Callwell paid equal attention to the help that land forces could offer navies, especially by conducting territorial operations against coaling-station bases where an inferior and blockaded fleet had taken refuge. Over and over again, Callwell emphasised how important it was for sea and land forces to cooperate effectively, and if air forces had existed at the time, he like Corbett would undoubtedly have included them too:

It has been the purpose of this volume to show how naval preponderance and warfare on land are mutually dependent, if the one is to assert itself conclusively and if the other is to be carried out with vigour and effect. There is an intimate connection between command of the sea and control of the shore. But if the strategical principles involved in this connection are to be put in force to their full extent, if the whole of the machinery is to be set in motion, there must be co-ordination of authority and there must be harmony in the council chambers and in the theatre of operations... 'United we stand, divided we fall,' is a motto singularly applicable to the navy and army of a maritime nation and of a world-wide empire.⁶⁹

As an Army man, Callwell paid more attention to the *conduct* of amphibious operations than did Corbett. This was not, of course entirely new. Back in 1759, at the height of the Seven Years' War which seemed so clearly to demonstrate the advantages of the amphibious approach, Thomas More Molyneux, an officer of the Royal Navy, wrote the pioneering *Conjunct Expeditions or Expeditions That Have Been Carried on Jointly by the Fleet and Army, with a Commentary on a Littoral War*. While Molyneux's bottom line—'The Fleet and Army, acting in consort, seem to be the natural Bulwark of these Kingdoms'—is very familiar and often quoted (nearly always, wrongly), the rest of this book, with its exploration of optimum command arrangements, the advantages of tactical if not strategic surprise, the value of deceptions and feints, the conduct of the landing operation, is largely forgotten these days.⁷⁰

The same fate awaited a number of other books on amphibious operations written in Callwell's time, most obviously Colonel George Furse's *Military Expeditons Beyond the*

Seas (1897) and *Letters on Amphibious Wars* (1911) by the Royal Marine, George Aston (1861–1938). Aston also wrote *Sea, Land and Air Strategy* (1914), which was certainly amongst the first to seek to fold airpower into the equation.

This sudden explosion of interest in the conduct of amphibious operations reflected the current strategic debate in Britain as to whether its armed forces should prepare for a continental-style strategy of large-scale involvement in land war on the European mainland or an eighteenth-century type of maritime war of limited continental engagement with an unremitting global sea-based offensive against the enemy's outlying possessions and vulnerabilities.

Admiral Sir Jacky Fisher was in no doubt as to where the balance should be struck and in his *Memories* recalled pacing the sands of Scheveningen with Germany's General Gross von Schwartzhoff in June 1899, the latter complaining about the way in which

the absolute supremacy of the British navy gave it such inordinate power far beyond its numerical strength, because 200,000 men embarked in transports, and God only knowing where they might be put ashore, was a weapon of enormous influence and capable of deadly blows.

Animated by such observations, Fisher was quite clear that the Army should indeed remain a projectile to be fired by the Navy, optimised for coastal military expeditions, and so was always on his guard against the insidious incrementalism of the continentalists—ineffectually, as things turned out.⁷¹

To many, the gruesome experience of the Western Front during the First World War merely confirmed the advantages of a maritime power's avoiding this approach to war if it possibly could. Admiral Sir Herbert Richmond (1871–1946), practitioner and naval historian, was certainly so persuaded. Like Corbett, Richmond wanted the Royal Navy to move on from its obsession with battle, to concentrate on securing its sea lines of communication, to prepare for expeditions against the exposed interests of any adversary and to integrate the Navy's contribution to national strategy effectively with that of the other two services. Such was also the aspiration of Sir Basil Liddell Hart, another of Richmond's colleagues.⁷²

Based on his understanding of 400 years of British history, Liddell Hart produced the concept of *The British Way in Warfare*, which synthesised the work of Corbett, Callwell, Aston and Richmond in an approach to strategy that emphasised:

- the importance of securing command of the sea;
- the effectiveness of sea-based economic pressure;
- the need to avoid continental commitments while securing the aid of allied land powers;
- generous expenditure on the navy;
- focusing on maritime areas of operation;
- developing synergy between the army and the navy;
- the value of expeditionary operations;
- limited and modest objectives;
- the need to project power ashore.

Although the British had not always followed their own rules in this matter (particularly in spending money on the Navy) Liddell Hart concluded that by such means a maritime

power like Britain could defeat a continental adversary while avoiding a direct confrontation on the European mainland. It was an example of ‘the Indirect Approach’ for which he has become famous.

Questions of Validity and Applicability

Not everyone has been impressed by *The British Way in Warfare*, however. Some doubt the strategic effectiveness of maritime pressure through blockade on a continental power with access to the resources of extensive territory. Others point to the difficulties of amphibious operations on the periphery and wonder about their real impact on the correlation of forces in the centre. There is also the obvious point that the approach’s manifest deficiencies have several times led to Britain’s taking a leading role in warfare on the continent of Europe as well as around it.

A second line of criticism is the ‘Britishness’ of this school of strategy and the perfectly valid question of how applicable all this is, to any other country (apart, that is, from Japan and one or two other such island nations)—even if it is true.⁷³

Admiral Raoul Castex (1878–1968) was given to making constant references to Mahan, and was sometimes quite rude about Corbett and Richmond, but for all that his biographer concludes that he was a secret follower of the Corbett line, perhaps without realising it. One of the most telling illustrations of this coincidence of view is Castex’s very French and almost untranslatable notion of ‘manoeuvre’—the capacity to move (or act) intelligently in order to create a favourable situation. This was the thinking behind the ‘ulterior objectives’ of the French Navy in the eighteenth century of which Mahan was so dismissive. It was a ‘clever’ approach to strategy-making where the emphasis was not on direct confrontation with the enemy’s main forces. Instead, Castex advocated an approach which made the most cost-effective use of forces and was especially useful when those forces could not dominate by sheer weight of number, and indeed might be inferior to those of the adversary.⁷⁴

The British engaged in their maritime strategy because they knew themselves to be weaker than their adversary in continental landpower. Similarly, any weaker power should surely be attracted by at least some aspect of a strategic approach which seeks to maximise the effectiveness of inferior forces in the presence of stronger ones. Abstract theories of seapower have to be put in effect in the real world of national strategy to the extent and in the manner that the security environment in which that country operates will allow. The precise mix between the Mahanian line and the Corbettian line (to the extent that they can be separated) therefore depends on strategic circumstances, but, to some degree or other, all such approaches will be ‘relevant’ to most countries with navies.

During the 1990s, the Royal Navy busied itself with writing up and rewriting its thinking about what navies do, why they do it and how they do it. This thinking appeared as *The Fundamentals of British Maritime Doctrine BR 1806* (1995) and more simply in a revised version as *British Maritime Doctrine BR 1806* (1999). These two very successful, compact but well-rounded doctrinal statements were a confident restatement of the importance of navies in the post Cold War era:

The potential and relevance of maritime power in today’s world is as great as ever. Maritime forces operate in an environment that allows them

access to most potential crisis areas of concern to the UK and our allies. Maritime forces are mobile, versatile and resilient, and can contribute sustained reach and lift capacity to a joint campaign or operation. Their ability to poise makes them powerful tools of diplomacy, and a capacity for leverage particularly in the context of expeditionary operations is of greater importance than ever in today's world of risks and uncertainties.⁷⁵

Although both doctrinal formulations rehearsed the classic 'concepts governing the use of maritime power' in ways that would have been perfectly acceptable to Mahan, the emphasis was essentially Corbettian in the

- stress on manoeuvre not attrition
- focus on the conduct of expeditionary operations
- joint approach
- insistence that doctrine should not degenerate into dogma: 'This book ...should be treated with respect as an authoritative publication but not worshipped as holy writ...Nelson would not have done so and neither should those who follow in his footsteps.'⁷⁶

Both publications, however, moved on from Corbett in the attention they paid to maritime operations other than war (MOOTW), particularly peace support operations, naval diplomacy and constabulary functions. They also reflect the focus on the operational level of war and on the tools of campaign planning to be discussed in the next section. Their intellectual core remains none the less Corbettian. There is quite a strong 'definitional' streak to both publications in which the emphasis is on the 'what is' of maritime strategy rather than the 'how to'. Since then the Royal Navy has moved into a series of papers exploring in more detail how these concepts should be implemented.

More generally, the British set a standard in doctrinal formulation that others have responded to. One of the most interesting such responses is *Australian Maritime Doctrine*, which appeared in 2000. Similar in approach to, and obviously influenced by, British doctrinal formulations, it covers much the same ground, but of course gives it an Australian spin reflecting their own particular national context. There is rather more emphasis on *sea control*, MOOTW (including more than a nod towards environmental concerns), rather less on expeditionary operations. The following passage, however, nicely illustrates the point made earlier about the need for nations to strike their own balance between Mahanian and Corbettian lines of thought:

Our region includes a large number of nations with significant maritime and air capability and it would be extremely unwise to make the assumption that the preconditions for sea control will exist whatever the strategic situation. Thus, while we may adopt and benefit from much of the work being done in the United States and Europe, it will be necessary for Australia to maintain in the immediate future a greater focus on fundamental issues such as sea control - including control of the air—at the same time as we seek to increase our ability to directly influence events on land.⁷⁷

Interestingly, the US Navy has been much less ambitious in its approach to doctrinal formulation, while being much more ambitious, of course, in the size and power of its forces. The *From the Sea* family of concepts developed by the US Navy through the 1990s are more 'position papers' than statements of doctrine but, in their modest way, they too reflect the same kind of aspirations and concerns. With the end of the rivalry between the navies of NATO and the Warsaw Pact in the struggle to command and use the sea,

[t]here was no point in continuing to express sea power in terms of the Mahanian dicta of autonomy and decisive fleet engagement, no point in refusing to let go of the doctrine that navies existed to fight navies...In 1992, the US Navy, after one hundred years, closed its book on sea power doctrine in the image of Mahan. For how long remained to be seen.⁷⁸

With the publication of *From the Sea* (1992) and *Forward...From the Sea* (1994) the US Navy's preoccupation shifted from sea control to land control. 'Naval Strategy', declared Jan Breemer dramatically, 'is dead'. This did not mean that sea control ceased to matter; it meant only that the US Navy and its allies would now be able to switch their attention to its reward, the capacity to project power ashore, especially in the world's troubled littorals. In fact many of these ideas had been prefigured in 1954 by Samuel Huntington in a famous article likewise produced at a time when Westerners assumed that sea control was almost a given, and could immediately proceed to its exploitation.⁷⁹

Forward...From the Sea described that exploitation like this:

Naval forces maneuver from the sea using their dominance of littoral areas to mass forces rapidly and generate high-intensity, precise offensive power at the time and location of their choosing, under any weather conditions, day or night. Power projection requires mobility, flexibility and technology to mass strength against weakness.⁸⁰

The words may not be Corbett's, but the concepts are.

2.6 ALTERNATIVE VISIONS IN MARITIME STRATEGY

Writers and sailors in particular countries at particular times have naturally tended as we have seen to give their own 'spin' to ideas on the roles of navies and on how they might be used. Generally, they accept and operate within the broad conceptual parameters of maritime strategy. Sometimes, though, there emerge more radical alternatives to the mainstream focus on sea control, defence of trade and the projection of power ashore.

War on Commerce/*Guerre de Course* Theory

One such school was the French *Jeune Ecole* of the nineteenth century. The immediate intellectual origin of this movement was Baron Richard Grivel's *De La Guerre Maritime* (1869). Grivel contended that the classical approaches of maritime strategy were inappropriate measures for France to take against Britain. Instead: 'Commercial war, the most economical for the poorest fleet, is at the same time the one most proper to restore peace, since it strikes directly at the very source of the prosperity of the enemy'. These ideals were expanded and publicised from 1874 onwards by Admiral Theophile Aube and the journalist Gabriel Charmes amongst others. Their influence peaked in 1886 when Admiral Aube became Minister of Marine. He immediately suspended France's battleship construction programme, built a naval base at Bizerta, boosted France's research and development efforts in submarines and began building cruisers and torpedo-boats at a high rate. For a short space of a year and a half, the dream came true—the philosopher was king; ideas could really be put into practice.⁸¹

These ideas were, however, by no means wholly new, especially in France. In 1706, Marshal Vauban, for example, concluded:

If we were to be quit of the vanity of great fleets which can never suit our needs and to employ the ships of the navy partly on commerce warfare and partly in squadrons to support it, we should bring about the downfall of the English and the Dutch within about two or three years, in consequence of their great trade to all parts of the world.⁸²

Moreover, practice seemed to suggest that there was substance in such theories. The French campaign against British commerce in the wars of Louis XIV, and the Revolutionary and Napoleonic Wars, showed that this was an effective means of attacking the adversary's vital interest—especially for a weaker fleet. The more recent American Civil War did the same on a smaller scale.

Moreover, in the last quarter of the nineteenth century technology appeared finally to confirm the promise of this approach. Torpedoes, mines, submarines, all seemed to make the major surface warship more vulnerable, and so to herald the end of the kind of maritime strategy that was based on big ships.

If battleships really were this vulnerable, would the whole concept of command of the sea not need to be rethought? The British Navy would no longer be able to blockade the French into their harbours. Strong enemy naval forces would be so concerned with their own security that their offensive potentiality would be much reduced, while that of the smaller ships would be correspondingly increased. Admiral Aube planned to use torpedo-boats against British ports, anchored merchant shipping and blockading squadrons in local waters. Cruisers would prey upon commerce on the great trade routes. A few coastal defence ships would protect the homeland.

Admiral Aube brushed aside the problem that the 1856 Declaration of Paris had made attacking merchant ships illegal, and so politically hazardous. He expected his torpedo-boats to 'send to the bottom, cargo, crew, and passengers not only without remorse but proud of the achievement. In every part of the ocean similar atrocities will be seen.' The

ends justified the means, and the advantage of such barbarous proceedings would outweigh all scruples.⁸³

It is important to note, however, that the Jeune Ecole did not expect to achieve their aim by starving Britain into submission. Instead such a campaign would aim to cause panic, a crisis in marine insurance and generally disturb the intricate patterns of British trade. It would strike directly at the shipping interests, the trades people and manufacturers who were the real masters of Britain. Their sufferings would force the government into peace. What the Jeune Ecole in fact advocated was a kind of asymmetric warfare.

The parade of such views caused considerable controversy in France for nearly 20 years. Naval policy oscillated wildly as Ministers of Marine came and went (there were 31 between 1871 and 1902) and the whole era was one of much confusion. Other countries were affected too, and people with similar ideas appeared elsewhere, especially in Germany, Austria and Russia, and, at the height of the craze, it damaged battleship construction programmes around Europe. The British, the chief targets of such thinking, were more worried about these ideas than they cared to admit.

Gradually, however, the influence of the Jeune Ecole began to wane, and the idea of a war on commerce slowly dropped out of favour, even in France. Amongst the reasons for this were:

- Enmity with Britain was the initial stimulus for the Jeune Ecole major incentive in the French Navy, but circumstances changed and the British and French became allies.
- The technological assumptions on which the case rested looked increasingly suspect. In particular, the extreme threat of torpedo-boat attack on a blockading fleet at night was considered more containable than had been thought. Wireless telegraphy made fleets more controllable and so less vulnerable. There developed a class of small fast vessels whose task was to defend the fleet against such attacks-torpedo-boat destroyers (increasingly only the latter word was used)-and modern ship design made large ships somewhat less vulnerable to torpedo attack.
- A war on commerce was better conducted by a superior conventional fleet. Was it not true, asked one ex-Minister of Marine, J.L.de Lanessan, that a successful war on commerce required at least a degree of command of the sea, and so needed the ships and doctrines best suited to contesting it. 'The only times when it [corsair warfare] was really effective against our own enemies', he wrote, 'was when our fleets were sufficiently strong to be able to dispute with our foes the mastery of the Channel or Mediterranean.' The success of Confederate commerce raiders in the American Civil War was often used as evidence for the Jeune Ecole, but had not the Northern commercial blockade, based on naval mastery, strangled trade while Southern corsairs like the *Alabama* merely harassed it?⁸⁴
- Because of its possible effects on neutral opinion, a campaign against merchant shipping needed to be conducted with considerable restraint and this would limit its operational effectiveness.
- The kind of navy proposed by the Jeune Ecole would not be suited for any other type of naval operation. It would not help France extend or defend its empire, protect its coast against invasion or prosecute an offensive war against powers less dependent on overseas trade than the British. For that, more orthodox conceptions of maritime strategy seemed to be needed.

The proposals offered by the *Jeune Ecole* were obviously not the solution to all problems but were none the less a bold and novel attempt to solve the historic problem of how best to use a self-evidently inferior navy against a predominant maritime power. Because many countries have found themselves in a similar situation, these ideas have had considerable appeal at various times. They were indeed revived 40 years or so later after the great success of the German U-boat campaign against British commerce during the First World War. Some German writers concluded afterwards that their attempt to construct a conventional fleet for what the French called ‘*La Grande Guerre*’ had been a pointless waste of time and resources.

Instead, why not abandon pursuit of command of the sea altogether—especially as this was a contest which Germany with all her territorial preoccupations could not hope to win? Why not rebuild the German Navy for a new war on commerce, rather than on the traditional lines which had so signally failed her in the past? In future, wrote one German admiral, the less one has to reckon with the clash of large battlefleets, as at Jutland in 1916, ‘the more trade warfare is going to become the main operative task of the strategy of naval war’. Writers like Captain von Waldeyer-Hartz and Ernst Wilhelm Rinse argued that trade warfare should no longer be a subsidiary operation, but the main area of activity. The enemy’s command of the sea should be accepted, his surface units avoided and his merchant shipping wholeheartedly attacked, by heavy surface ships, cruisers, submarines and aircraft. ‘Trade warfare’, wrote Waldeyer-Hartz, ‘will be the dominant form of the naval warfare of tomorrow.’⁸⁵

These ideas did not win wide currency within the German Navy until the very eve of the Second World War, partly because the Germans were not generally anticipating another war against the British, partly through an acute sense of the politico-strategic implications of a war on commerce (which had, after all, brought the Americans into the war against them in 1917) and partly through a sense that traditional procedures such as convoy-and-escort and new technology in the shape of ASDIC (the forerunner of sonar) had shown the war on commerce, even by submarine, to be containable. Nevertheless, as we shall see in Chapter 7, the notion of maritime operations with a focus on attacking trade continues to be of interest.

Coastal Defence Theory

Coastal defence has been another rather different emphasis in the development of thinking about maritime operations. Again, it has tended to be of particular interest to weaker and smaller navies. In the United States of the nineteenth century, for example, it found expression in the construction of a chain of coastal fortifications along their eastern seaboard, in the development of minefields and the construction of small warships maximised for coastal operation.

Mahan was perfectly content that the static coastal defence element of sea warfare complemented its mobile and offensive element, ‘one possessing what the other has not; and that the difference is fundamental, essential, unchangeable—not accidental or temporary’.⁸⁶ If anything, with the impact of the new technology of the industrial age, this interest grew, in the United States and elsewhere.

It even found expression in Britain, in the sparkling words of its eccentric but brilliant First Sea Lord, Admiral Sir Jacky Fisher. Paradoxically famous for his invention of the

Dreadnought battleship in 1904 (which apparently made all other battleships obsolete overnight) and even more for his preoccupation with the battlecruiser/fast battleship, Fisher was at times much more concerned with the future prospects of 'flotilla defence'. He was convinced that new technology, in the shape of the submarine, would make it impossible for hostile fleets to operate in comparatively narrow waters like the North Sea. Accordingly, it would not be possible for anyone to blockade Britain, or invade it once such a flotilla defence was in place. In 1904, and in 1914, he wrote:

THE SUBMARINE IS THE COMING TYPE OF WAR VESSEL FOR SEA FIGHTING. And what is it that the coming of the submarine really means? It means that the whole foundation of our traditional naval strategy...has broken down! The foundation of that strategy was blockade. The Fleet did not exist merely to win battles—that was the means not the end. The ultimate purpose of the Fleet was to make blockade possible for us and impossible for the enemy...Surface ships can no longer maintain or prevent blockade...All our old ideas of strategy are simmering in the melting pot!⁸⁷

On the basis of such ideas, Fisher sought to switch resources from the battlefleet to flotilla defence largely through submarines and aircraft, but with only mixed success against the weight of orthodox opinion.

Fisher had many strengths, but the detailed and articulate enunciation of clear ideas was not one of them. For that, believers in coastal defence had to wait another 20 years until the advent of what has become generally known as the Soviet New School of the later 1920s and early 1930s. The Soviet New School were stimulated into innovation by a variety of developments. First was the sense that during the so-called 'War of Intervention', Russia's coasts had been subjected to attack and invasion, especially in areas where little resistance was offered, given the virtual disappearance of Russia's naval forces in the Black Sea and Northern and Pacific waters. The Baltic Fleet was in a parlous state too, but its existence required at least a degree of restraint from the Western allies. The lesson seemed clear, and was enunciated by Frunze in February 1925: 'we cannot conceivably safeguard our maritime borders without a strong navy'.⁸⁸

But this seemed impossible. The main threats to Russia came, as ever, from overland and required priority treatment. Surviving naval forces were in a dreadful state and Russia's shipbuilding and repair capacity had virtually collapsed. Further, there were many who thought that the thinking of the 'Navy of Red Workers and Peasants' should be folded into an emerging Proletarian Military Doctrine that would befit an entirely different, revolutionary state.

Given all this, the continuing dominance of the so-called 'Old School', particularly Professors Gervaise and Petrov at the Naval War College (who followed the example of Nikolai Klado in adapting Mahanian concepts of maritime strategy to Russia's semi-oceanic circumstances), seemed quite bizarre. They argued for a significant navy including battleships and heavy cruisers intended for the forward defence of local waters by 'keeping command of the sea in dispute' just as the Baltic Fleet had tried, with some success, to do in 1919. But in the circumstances this was completely unrealistic.

In some exasperation, Admiral Zof, the Navy's Chief, complained that the Old School seemed completely to ignore economic and technical reality, and the fact that 'perhaps tomorrow, or the day after, we will be called upon to fight. And with what shall we fight? We will fight with those ships and personnel that we have already.'⁸⁹

Finally, there were many analysts around the world who argued that new technology, especially in the shape of aircraft and submarines, was in any case fatally undermining traditional naval ways of doing things by exposing the new vulnerability of large surface ships, particularly battle-ships and aircraft carriers. Command of the sea as a doctrine was not merely irrelevant for Soviet Russia: technology, it was claimed by the likes of A.P. Aleksandrov (Head of Department at the Naval War College), had made it obsolete.⁹⁰

For all these reasons, slavish adherence to foreign concepts of maritime warfare was increasingly questioned by those who argued that the new Soviet Russia needed an entirely different approach to maritime strategy:

We often...identify with the classical sea powers and try to operate like they do. The battle of Jutland is our model which we study and attempt to imitate. Admirals Beatty and Spee—they are our role models. That which we learn from foreigners is good...But to try to transplant all that directly into our conditions is not correct. We have other forces, other means, and we operate under different conditions. Consequently, it is necessary to work out the tactics for a small navy which acts together with the Army according to a single strategic plan.⁹¹

Indeed, Aleksandrov observed, the whole notion of the command of the sea was much less a valid strategic concept than 'the operational expression of imperialist policy in the struggle of the imperialist states among themselves for raw materials, markets, spheres for capital investment and for redistribution of the already distributed [colonized] world.' The old theories were no longer valid for anyone, assuming indeed that they ever were.⁹²

Instead, the New School argued for a much more localised defence of Soviet coasts against serious maritime attack using an integrated system of minefields, coastal artillery, submarines and motor torpedo-boats (MTBs). This called for a joint approach amongst the services and an overall command system that made use of the latest communications technology. It was seen as a means of realising the Leninist aspiration for the unity of the forces.

But what was presented by its advocates as a viable alternative approach to classical maritime warfare as portrayed by the likes of Mahan and Corbett was gradually discredited as circumstances changed through the later 1930s and the Soviet Navy gradually reverted to orthodoxy. If the Soviet Union was to defend its national and revolutionary needs outside the confines of the Black Sea and the Baltic, the Northern and Pacific Fleets would need to be created (in 1933 and 1932, respectively) and a substantial new construction programme would be necessary, especially of battleships and heavy cruisers. Opponents were accordingly purged (indeed, not infrequently shot), and the right-thinking Admiral N.G.Kuznetsov took over as Commander-in-Chief.

Something of the same kind occurred in China in the 1940s and 1950s when circumstances again encouraged the development of a school of maritime thought that put all the emphasis on a large mosquito fleet (with army and air support) whose essential

task was coastal defence. Rather than apologise for it, some Chinese naval thinkers argued that their approach was not merely a temporary expedient brought about by resource shortages, but a conscious and deliberate alternative conception of maritime strategy, entirely justified by the political and technological conditions of the time. Again, when conditions changed, Chinese leaders (and especially Admiral Liu Huaqing) came to the conclusion that such modest forces would not satisfy their broader strategic aims and in any case would probably not be successful in defending their countries against attack by large naval forces.

None the less, the increase in the number of countries with significant maritime interests and the huge extension in the area of that responsibility brought about for many of them by the UN Convention on the Law of the Sea (UNCLOS), together with certain developments in weapons technology, has if anything increased interest in this relatively more limited approach to maritime strategy. According to one recent Norwegian formulation of an accompanying theory, the coastal state's approach to seapower will be characterised by a tendency to make the most of joint action and coastal topography. It will aim at the deterrence of large-scale naval action through inflicting punishment, rather than crudely attempting to defeat it. A coastal defence navy should be as 'balanced' as resources permit, and should aim to be more than a mere client of any major naval power whose support it needs. The conclusion is straightforward:

Coastal navies should not be modelled on the navies of the naval powers. Instead they should be tailor-made to fit the local environment. This is because their tasks are different from that of the bluewater navies, their operating conditions are different, and their force structure is different.⁹³

There are yet more modest variants in coastal defence theory. The Israeli Navy, for example, was divided for many years between the proponents of a small-scale but balanced fleet of surface ships, fast-attack craft and amphibious units (the so-called 'Big Flotilla' school) and the advocates of the Palyam tradition of marine sabotage who thought that small groups of offensive frogmen were all that Israel could afford and needed.⁹⁴

Coastal defence theory clearly comes in many variations, and, provided it has an effective concept of operations and the technology to go with it, remains appropriate for many countries.

2.7 OPERATIONAL ART AND MODERN MARITIME THEORY

Early thinking about the conduct of maritime warfare tended to concentrate on the tactical level of war. Indeed the word 'tactics' often appeared in the titles of the works of the maritime pioneers of the eighteenth century. Here the focus was on how the fleet should be managed in the presence of the enemy—most obviously in order to secure the best chances of success in battle. This was a preoccupation of the later strategists of the nineteenth century too, of course, but they were equally concerned with grand strategy—the contribution that navies could make to the achievement of national aims in peace and

war. Historically, not much has been written about anything between these two levels of war.

Perhaps unexpectedly, the last major contribution to modern maritime theory comes from twentieth-century concepts of land warfare. Less unexpectedly, given the land focus of their thinking, Russian thinkers have set the pace in this regard. The failure of the Red Army before Warsaw in 1920, together with a strong sense that nothing should be taken for granted in a revolutionary state, led to an outburst of innovative thinking about the way in which military operations should be conducted, most obviously on land. This led to considerable thinking about what constituted *operational art*, the creation of a fighting style optimised for large spaces, the operational level of war, a manoeuvrist approach and the *deep-battle*. In the Oder-Vistula campaign against Germany and the 'August Storm' operation of 1945 against Japan, the Red Army showed that it could put theory into impressive, indeed decisive, practice. After the chastening influence of their failure in the Vietnam War, the United States military likewise developed a strong interest in operational art, and other Western military establishments have since followed their example.⁹⁵

The centrepiece of this 'new' way of thinking about the conduct of military operations was the so-called 'operational' level of warfare and the very closely associated concept of *operational manoeuvre*. In essence, a new level of war was identified that lay between the tactical (the art of battle) and the strategic (the art of war). The 'operational' level of war was said to be about campaigns—hence, operational art is the art of campaigning.

A campaign can be either cumulative (the aggregated consequence of a range of separated even independent military actions—such as a *guerre de course*) or sequential (in which one stage is a prerequisite for the rest—such as securing sea control before launching an amphibious assault).⁹⁶ For convenience, the campaign is often thought of in terms of the numbers of military personnel engaged, or the area over which it takes place, or the time it takes, or maybe all three. The campaign involves more of any of these than does a battle, but less than a war. But these are relative not absolute terms. There was, for example, plainly an operational level in the Falklands campaign, even though in numerical terms the forces engaged amounted to less than a corps.

The essential point, though, is that the operational level of war *links* the other two. In the familiar words of the Soviet theorist A.A.Svechin:

Strategy decides questions concerning both the use of the armed force and all the resources of the state for the achievement of ultimate military aims... Operational art, arising from the aim of the operation, generates a series of tactical missions and establishes a series of tasks... Tactics makes the steps from which operational leaps are assembled. Strategy points out the path.

It follows that operational art is 'the skilful employment of military forces to attain strategic goals through the design, organisation, integration and conduct of campaigns, major operations and battles'.⁹⁷ The resultant hierarchy of levels of war is shown in Figure 2.5.

At the same time, Soviet military thinkers realised that the enemy was best thought of as a hostile system, not just an accumulation of menacing forces in an opposing line of

battle. Behind their deployed forces lay a complex network of supporting resources, command and control systems, reinforcements, political will, and so forth. If these could be attacked directly, rather than indirectly through the attritional destruction of the enemy forces deployed to defend them, a much more cost-effective style of war became possible. Thinking ‘deep’ and going for the weaknesses behind the front line was increasingly emphasised. This led to the Russian concept of the ‘deep battle’. To some extent this was a misnomer, since the whole point of the approach is that the decision would be sought not at the tactical level, of battle, but above it at the operational or ‘campaign’ level, to which, of course, battles contributed. In the Russian ‘August Storm’ operation of 1945, for example, the Japanese military system in Manchuria was taken apart, chunk by chunk, not in a series of decisive battles but in a decisive *campaign* characterised by fragmenting, simultaneous strikes and the generation of momentum. Given the scale of forces likely to be involved in many campaigns, decisions will seldom be attained through single engagements.

		<i>Description</i>	<i>Example</i>
Strategic	Grand Strategic	Decisions taken by governments or coalitions to achieve political objectives.	British decision to try to re-establish control of the Falklands in 1982 after their seizure by Argentina.
	Military Strategic	Military decision about the resources that need to be allocated for the grand strategic objectives to be met.	Decision to construct and despatch the RN Task Force.
Operational		Command and planning at the campaign level so as to achieve strategic aims.	When and how to deploy the RN carrier battle group and to conduct the amphibious assault.
Tactical		The effective use of military forces, especially in the presence of the enemy, to help achieve aims of the operation.	Disposition and use of the escorts to the carrier battlegroup or the amphibious landing force
Procedural/ Technical		Some authorities acknowledge a level below the tactical at which actions are primarily determined by the technical characteristics of the equipment being used.	When and how to fire chaff.

FIGURE 2.5 The Levels of War

Achieving this result required what has become known as a manoeuvrist approach, a deliberate and conscious attempt to shape the campaign and to attack the enemy’s cohesion (whilst protecting one’s own). This could take various forms. It could be, literally, a geographic manoeuvre—an unexpected angle, or combination of angles of attack. Nelson’s getting between the French battle line and the shore was manoeuvrist at the tactical level in the Battle of the Nile in 1801; the Japanese plan to strike at the US

fleet in Pearl Harbor *from the north* 140 years later was an example of the same kind of thing at the operational level.

But the manoeuvrist approach can be conceptual too. It is better understood as a matter of out-thinking the enemy. The enemy's plan rather than his forces is the main object of attack. It means manoeuvring the enemy by the skilful use of your forces into a situation in which all his options appear unattractive. At this stage, many modern commentators and doctrine writers nod towards Sun Tzu: 'To subdue the enemy without fighting—that is the acme of skill.'

Finally, the manoeuvrist approach can be expressed through the configuration of military forces. In the 1970s and 1980s, for example, the Russians developed the concept of the 'Operational Manoeuvre Group' (OMG)—in effect a small, hard-hitting, mobile, self-contained army optimised to spread the maximum of dismay and disruption behind NATO lines by attacking its key points, communications, supplies and sources of fire support. At sea, the equivalent of this might be a task force with a range of capabilities packaged for a particular operation. More generally, a US Navy Carrier Battle Group would appear to have most of the historic attributes of the OMG.

This comparatively modern focus on the operational art and the manoeuvrist approach has considerable consequence for the use of maritime forces:

1. It has certainly been a means by which campaign-planning has been sharpened up. It seems to help in determining force allocation, the provision of fire support, intelligence and command arrangements. The following 'campaign planning tools' have come into use as means of increasing planning efficiency:
 - the end state (the desired result);
 - the commander's intent (identifying and communicating the commander's view of the end state and, broadly, how it is to be achieved to everyone who needs to know it);
 - the centre of gravity (the source of a force's freedom of action, physical strength or will to fight);
 - branches and sequels (alternatives to the planned line of operation, introduced as necessary);
 - decisive point(s) (prerequisite(s) to the successful attack of an enemy's centre of gravity);
 - culminating point (the point where the defender's military capacity begins to outweigh the attacker's; an attack needs to achieve its objective before this point);
 - lines of operation (links between decisive points in time and space—may be service-specific);
 - operational pause (time to reconfigure for the next stage).

Employing these campaign planning tools is not of course a guarantee of operational success, but helps make catastrophic failure somewhat less likely.

2. The focus on operational art also offers a means of re-aggregating forces that have become geographically, or maybe functionally, dispersed so that they recover a sense of cohesion even when engaged in wide-ranging operations against the enemy's

military system. With the need to 'go deep' rather than advance in a simple linear manner, this requirement has become increasingly important.

3. It becomes a 'force multiplier' through facilitating better co-ordination between the forces of different services operating jointly, or between the forces of different nations engaged in combined operations. This is important, since operations will nearly always be joint and usually combined.
4. It encourages maritime planners not only to conduct their own campaigns more efficiently but also to reflect on the contribution they can make to the outcome of joint operations ashore.

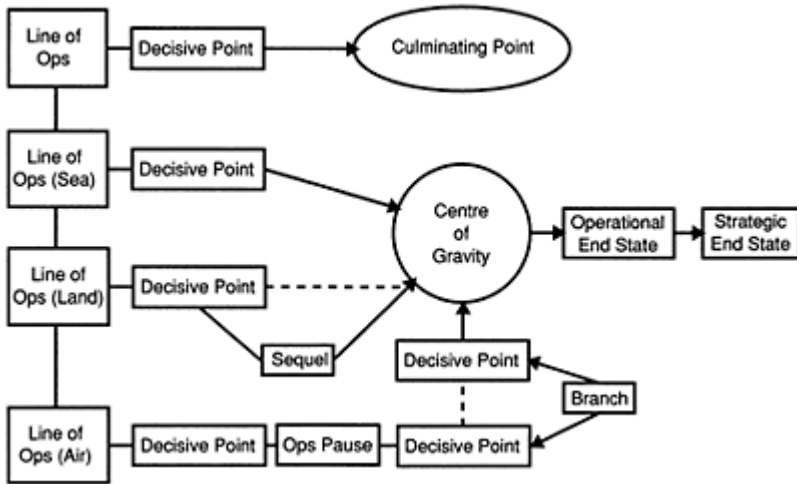


FIGURE 2.6 Campaign Planning Tools

The US Marine Corps (USMC) were amongst the first to go on to develop the concept of *operational manoeuvre from the sea* (OMFTS). Their idea was to take the notions expressed in *From the sea* and *Forward...from the sea* one stage further still and to create conditions for successful manoeuvre ashore by making use of the unimpeded access offered by the sea. Maritime forces, moreover, have a special contribution to make in their mobility (400 miles a day compared to the 30-odd usually achieved by land forces), firepower and flexibility. This seemed an attractive way of applying force intelligently in order to seize the operational initiative:

Naval forces maneuver from the sea using their dominance of littoral areas to mass forces rapidly and generate high-intensity, precise offensive power at the time and location of their choosing, under any weather conditions, day or night. Power projection requires mobility, flexibility and technology to mass strength against weakness. The Navy and Marine Corps team supports the decisive sea-air-land battle by providing the sea-

based support to enable the application of the complete range of US combat power.⁹⁸

The famous landings of UN forces at Inchon, a few miles south of Seoul, in September 1950 during the Korean War revealed the full advantages of maritime manoeuvre of this kind. This surprise amphibious assault by US Marines, deep in the enemy's rear, unhinged their whole plan, threatened their lines of supply and forced a pell-mell retreat from their siege of UN forces in the Pusan area far away to the south-west. This landing and the subsequent advance completely transformed the operational scene ashore, and helped create a fluid and dangerous situation for the North Koreans until the intervention of the Chinese in November restabilised the situation for them. But even after that, the continued prospect of amphibious operations against hostile forces in this peninsular war was one of the major ways in which the United Nations avoided having to fight the war on the enemy's terms.

OMFTS drew heavily on traditional amphibious thinking as well as on the newer concepts of manoeuvre, deep battle and the operational art. It was developed in parallel with a tremendous growth of interest in littoral and expeditionary operations during the 1990s. The result was a synthesis of ideas with some new emphases, including:

- A focus on the littoral, the area of land susceptible to military influence from the sea, and the sea area susceptible to influence from the land. This encouraged the notion of 'battlespace dominance' rather than sea control, the associations of which were thought to be too exclusively naval.
- A stress on jointery in all respects. This would increasingly require joint command, especially at the theatre level.
- *Ship to objective manoeuvre* (STOM) was the product of operational level and deep-battle thinking. STOM moved away from the idea of the amphibious assault intended to secure a lodgement from which subsequent moves could be made after the traditionally necessary 'operational pause' (as demonstrated by the British San Carlos Water landings of 1982). Instead, the assault should go straight for the operational objective in a one-step combined arms manoeuvre from over the horizon that was designed to overwhelm the adversary in an operation to enlarge, exploit and control the battlespace. STOM rested heavily on greatly improved methods of delivery, of course.

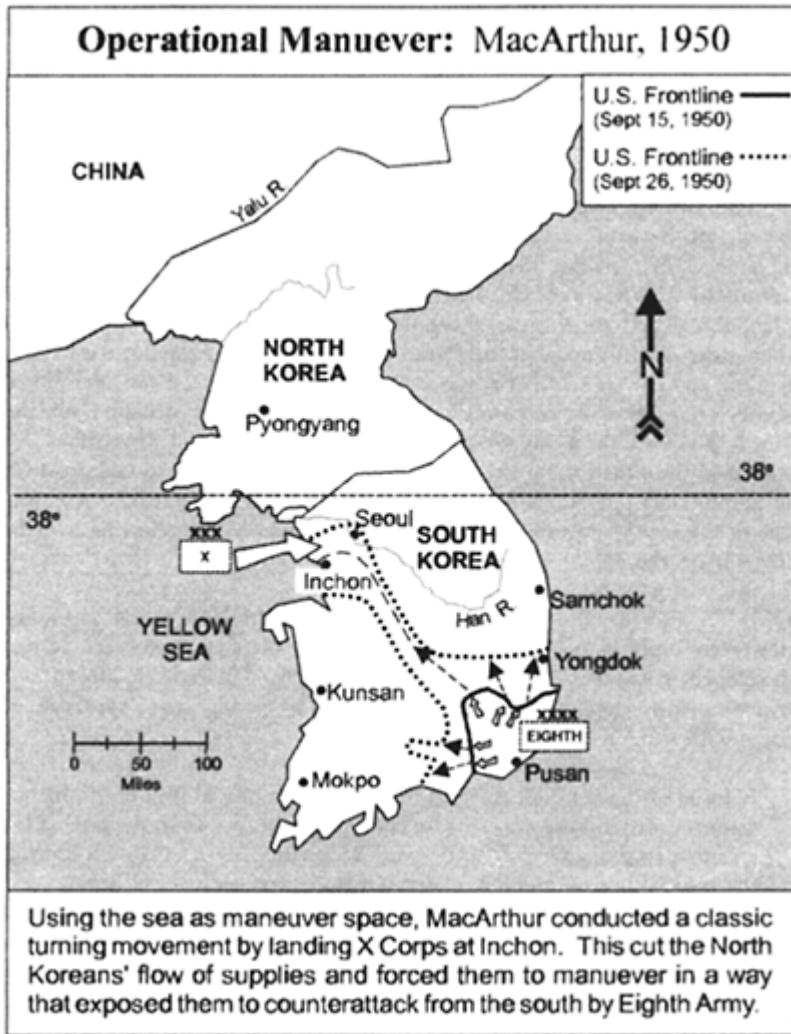


FIGURE 2.7 Operational Manoeuvr
from the Sea

- Manoeuvre not attrition. The whole point was to fight smart, not so much to destroy the enemy's forces as to disrupt and dismantle them. The aim would be to overwhelm by precise firepower, a high-tempo succession of moves, surprise and simultaneity.
- General applicability. From the start, there was the expectation that this kind of thinking could be applied to situations other than straightforward combat operations against an advanced adversary. Increasingly it was applied to peace-support operations, humanitarian operations, and so forth.

Such aspirations have had and will continue to have considerable implications for the way in which navies operate and the platforms, weapons and sensors they need. Similarly, the size, shape and purpose of marine forces around the world have likewise been amended to meet emerging needs. As will be seen in Chapters 7 and 8, maritime forces optimised for OMFTS require special emphasis on reach, flexibility, intelligence, integrated command and control and interoperability with the other services and allies which will almost certainly be involved.

Radical though this may all seem, a cautionary note or two might be necessary. First, the point needs to be repeated that none of this is a guarantee of automatic victory. Second, while the terminology may be new, earlier commanders may well have understood all this intuitively. Indeed, as we shall see in Section 6.2, the concept of ‘ulterior objectives’ associated with de Morogues and other French writers of his time, and the common use of the term ‘grand tactics’ by military commentators in the nineteenth century both presuppose a level of maritime activity different from, and possibly superior to, the conduct of decisive, linear battle. Moreover, the concept of ‘manoeuvre’ was first substantially explored long ago by Raoul Castex:

Manoeuvre is quintessentially a creative activity. ‘To create a favourable situation’ is the proposed definition. *Manoeuvre* attempts to alter or control the course of events, to dominate fate rather than yield to it, to conceive and bring forth action.⁹⁹

Third, the operational level of war is *a* not *the* critical level of war. The Japanese, in the Pacific War of 1941–45, showed that it is possible to be brilliantly successful at the operational level, but still lose. Further, the crucial importance of the *tactical* level has been convincingly re-affirmed by the US Navy’s Captain Wayne Hughes.¹⁰⁰ None the less, the recent impact of the operational level of war has clearly had a major effect on maritime thinking.

2.8 FUTURE CHALLENGES

However, there may well be perfectly legitimate doubts about the extent to which all this past and even recent theorising about the conduct of maritime operations still applies today. In the first place, most classical maritime theorists (the likes of Mahan and Corbett, and their entourage) were, as we have seen, largely concerned with operations at sea between the developed fleets of traditional nation-states. They were essentially concerned with winning sea control and then its exploitation either to attack or defend shipping, to project military power ashore or to defend oneself against it. Of course, these ideas were redefined and amended, especially under the stimulus provided through the twentieth century by a whole range of technological, social and political developments.

Nevertheless, and however advanced this modified traditional thinking might be, it does not deal directly with a lot of the problems that the world’s navies are actually having to deal with on a day-by-day basis—such as piracy, patrols against illegal immigrants, fishery protection and so forth. Nor does it necessarily seem to help navies cope with the messy political situations in which they often find themselves. Nowadays,

the political dimension of conflict which used largely to be confined to the strategic and higher operational levels of war, now reaches down all the way to the tactical, and increasingly seems almost to determine military responses. Peace-support operations are often conducted in coalitions; this tends to slow up and complicate decision-making processes in a way which makes all aspects of operational art much more difficult.

The Russians, after all, originally developed the notion of operational art against a background of what might be termed 'heavy metal warfare', but the extent to which the results of their intellectual effort help guide activities in recent situations such as Sierra Leone, East Timor or even Afghanistan may seem problematic. The less related the activity is to standard combat, in which an 'enemy' is to be 'defeated', the greater the level of strain in massaging the concepts, say of OMFTS, to fit it.

Watering down warfighting concepts like this in an attempt to make them go further could all too easily make them banal, ambiguous and unlikely to offer the kind of guidance for force and campaign planners that is the main justification for all the intellectual effort that produced them in the first place. In effect, trying to relate the concept to too many different and competing situations may result in its being so adulterated as to say nothing useful about any of them. In such a situation, the danger is that military forces engaged in messy situations might be tempted to fall back on to 'heavy metal thinking' even in peace-support situations where this would not be appropriate.

To offset this danger, the world's navies have indeed, as we shall see later, bent their minds to producing doctrine for peace-support operations and the conduct of humanitarian activities often in a joint and combined context. The conclusion is inescapable. We need to go on thinking about the conduct of maritime operations in the twenty-first century; but knowing what *has* been said about them in the past is surely the first step in the process.

Chapter Three

The Constituents of Seapower

‘Britain’s seapower...lay not just in the navy or the battlefleet, but in the effective integration of her administration, political system, army, colonies and maritime economy towards the ends of the state.’¹

3.1 INTRODUCTION

Seapower is the product of an amalgam of interconnected constituents that are difficult to tease apart. These constituents are attributes of countries that make it easier or harder for them to be strong at sea. If seapower is indeed to be defined as the capacity to influence the behaviour of other people by what you do at or from sea, then these attributes must be accepted as part of the mix. The broader conceptions of strategy outlined in Section 2.2 imply that what a national government does to nurture these constituents of seapower should indeed be regarded as part of a well-rounded maritime strategy.

The fact that these constituents are constantly on the move, shifting and changing in accordance with a variety of social, economic, technological and political development, however, raises the question of the extent to which governments can, or even should, seek to direct this process as a means of increasing their maritime potential. Answers to this question may reflect assumptions about the power of governments in general, especially in the social and economic realm.

Historians have drawn clear distinctions between organic seapower which develops naturally (Britain, the Netherlands) from the artificial variety that is the product of governmental *fiat* (the Russian Navy of Peter the Great). The latter is often said to be shallow-rooted and unlikely to last; the former is seen as preferable. Even so, most seem to think that governments can, and indeed should want to, develop their seapower and so need to work out a strategy for doing so.

This may not be easy, since the significance of these constituents may depend very much on a strategic context over which national governments have little control. For example, the value of a country’s merchant shipping industry and its capacity both to influence other peoples’ behaviour and/or to provide maritime resources that can be devoted to the navy must depend in large measure on international tranquillity and the state of the world economy. The strategic context helps determine the value and effect of the constituents, in other words.

The contribution of particular constituents to seapower can be of two kinds:

- It can be a *direct* constituent in its own right. Other peoples' behaviour is influenced by the fact, for example, that you maintain a large commercial fleet.
- It may have an *indirect* influence through contributing to the effectiveness of one or more of the other constituents of your seapower, most obviously your navy.

Navalists, of course, would argue that naval strength contributes to all the other constituents, directly and indirectly.

3.2 IDENTIFYING THE CONSTITUENTS OF SEAPOWER

Richard Harding has argued that naval capability in the age of sail depended on

a number of related factors, both inside and outside the navy. The actual strength of a navy was heavily dependent upon finance, the capability of central administration, the quality and quantity of real maritime resources, the ships, seamen and officer corps, the maritime infrastructure and the quality of political and naval decision-making.²

These constituents link together and help determine the development of a country's naval and maritime power, rather in the manner shown in Figure 3.1.

Most of the major constituents of seapower and the specific contribution they make to the development of naval power will be discussed here. Navies and the impact of technology are especially closely connected and will be held over until the next chapter.

3.3 POPULATION, SOCIETY AND GOVERNMENT

Traditional writers on seapower tend to extol the virtues of the kind of community produced by a maritime economy. They claim that it creates the conditions in which countries can be influential and in which navies will prosper. Specifically a maritime community:

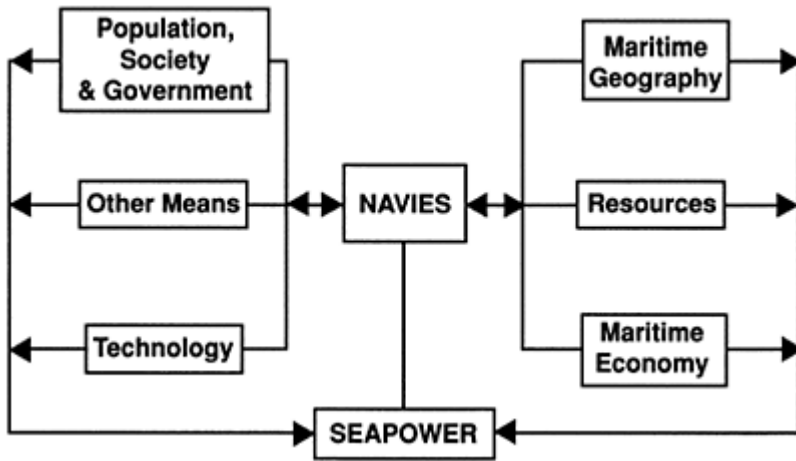


FIGURE 3.1 The Constituents of Seapower

- Encourages an awareness of the importance of maritime trade in society and government, helping thereby to produce the conditions in which that trade will flourish.
- Elevates the merchant class socially and politically, encouraging thereby the development of a value system and a style of government that fosters trade.³
- Facilitates the development of naval power partly because it is simply more efficient at raising the resources navies need and partly because the merchant classes naturally see navies as a means of protecting maritime trade, both directly and indirectly. Nicholas Rodger brilliantly and concisely summarises the argument like this: ‘absolutist monarchy was essentially a system of government for mobilizing manpower rather than money. More efficient in its way than the medieval constitutions it replaced, it was poorly adapted to meet the much greater strains imposed on state and society by a modern navy. For that, it may be suggested, what was needed was a system of government which involved the participation by those interest groups whose money and skills were indispensable to sea power—not just the nobility and peasantry whom absolutism set to work, but the shipowners and seafarers, the urban merchants and financiers, the industrial investors and managers, the skilled craftsmen; all the classes in short, which absolutist government least represented and least favoured...A military regime could sustain itself by force, but a navy had to earn public support. Autocracy was adequate for an army, but navies needed consensus.’⁴ For this reason, Spain failed the naval test in the sixteenth century, France in the seventeenth and Germany and Russia in the twentieth.
- Provides direct support for the navy in that most essential of its needs—people. Thus the famous quote by Lord Haversham: ‘Your Fleet and your trade have so near a relation and such mutual influence on each other, they cannot well be separated; your trade is the mother and nurse of your seamen: your seamen are the life of your fleet:

and your fleet is the security and protection of your trade: and both together are the wealth, strength, security and glory of Britain.⁵

Two caveats need to be entered against this description, perhaps especially today. First, it seems not so much to be a question of whether government and society are democratic and libertarian, as of whether they are efficient. Mahan himself, no great democrat, was worried that government by the people for the people would rather spend its money on things other than defence. In Britain, Laughton concluded much the same:

One of the doubtful advantages of that system of party government which its admirers acclaim as the palladium of our political liberties, is that—whatever party may be in office—the treasury is unwilling to spend money on our armaments, knowing that, at the next election, it will be denounced as a flock of vultures who have been battenning on the very vitals of the poor.⁶

Second, some of the most effective navies in history have emerged from countries and regimes hardly noted for their adherence to democratic principles (the sixteenth-century galley fleets of the Ottomans, the Barbary pirates, the Soviet Navy of the Cold War years). The German *Kriegsmarine* of the Second World War, moreover, was highly committed, and given its circumstances very effective, even though it operated in perhaps the most barbarous of all modern dictatorships.

A strong navy seems to depend on a strong state. Thus it was the effective, centralising states of seventeenth-century Europe that first developed the capacity to set up *and maintain* permanent navies. Conversely, when a country is afflicted by domestic political discord its navy, however strong, will tend to fall to pieces. Oman provides but one of countless examples of this. Oman's seapower and its strategic and commercial linkages with areas and regimes as far apart as East Africa and the coast of China depended absolutely on domestic stability and order at both ends of this chain of maritime communication. Periodic convulsions in China disrupted one of Oman's most lucrative markets, while domestic upheavals within Oman itself damaged the country's ability to defend and extend its maritime interests.⁷

In the worst of cases this political discord can even enter the navy itself, setting one clique against another or making an effective working relationship between officers and crew impossible. This afflicted the Royal Navy at the height of its powers, during the eighteenth century, when the officer corps was riven by political factionalism such that it was said that if one naval officer were to be roasted, another could be found to turn the spit. Making the officer corps and the crew into a 'band of brothers [and sisters]', while crucial, can be very difficult in such circumstances.

Governmental (and therefore naval) effectiveness can also be undermined by the scourge of corruption, so prevalent today. The particular fear here is that key political or naval decision-makers are suborned by arms manufacturers into acquiring platforms, weapons or sensors that do not really suit national requirements, or which cost too much. A German watchdog group called Transparency International has even produced a system of rating countries for the prevalence of corruption, and, as its name significantly suggests, regards the transparency that goes with democratic styles of government as being the best defence against it. Transparency and accountability is also an effective

counter to sheer administrative incompetence. Navies are complex and sophisticated organisations that need efficient decision-making to match.⁸

Autocracies do seem to have problems that militate against the effective and sustained development of many aspects of seapower. Mahan was aware that

despotic power, wielded with judgement and consistency, has created at times a great sea commerce and a brilliant navy with greater directness than can be reached by the slower processes of a free people. The difficulty in [such a] case is to insure perseverance after the death of a particular despot.

In countries such as China or Russia, seapower has typically waxed or waned according to the whim of the ruler then in place. The Russian Navy of the Tsarist era was the product of an imperial *ukase* usually issued for a particular dynastic or strategic need, and so lacked permanence when circumstances changed. The Stalinist purges of the 1930s and their operational consequences in the early days of the Great Patriotic War were a grisly reminder of the way in which the regime can adversely affect the size, equipment and conduct of the navy. Under Stalin, the lethal effects of political incorrectness (when more than half the Navy's senior personnel were shot in the late 1930s) and the depressing impact of the political officers (the *zampolits*) encouraged Soviet naval personnel to 'go by the book'. Tactical and operational initiative was limited and performance uninspired. Only towards the end of the Great Patriotic War were there signs of recovery.

To summarise, it is not liberalism and democratic principles in themselves that were, and are, decisive in the long-term development of seapower but rather administrative efficiency in raising money and other resources, and in spending it wisely. But, as a general rule, these qualities do seem to have been particularly associated with freer, stable, more mercantile styles of society and government.

Maritime People

'No man will be a sailor who has contrivance enough to get himself into a jail; for being in a ship is being in a jail, with the chance of being drowned...A man in a jail has more room, better food, and commonly better company.'

Samuel Johnson, quoted in James Boswell, *Life of Johnson*

A country's population, society and government helps determine the availability of maritime people. Several of the passages included above make the point that the seafarers of a maritime community can provide navies with the manpower they need, but there are potential problems with this.

Historically, as we saw in Chapter 1, many societies have had an adverse image of the sea. Samuel Johnson's famous comparison illustrates a common public perception of the

Royal Navy, even when it was perhaps at the peak of its power. Going to sea, moreover, has often been considered morally as well as physically dangerous because it brought people into contact with exotic and hazardous ideas. This attitude was shared by social groups as diverse as India's Brahmin caste, China's ruling elite in the fifteenth/ sixteenth centuries and Russian conservatives of the nineteenth century. But if for such reasons, society or governments foster such perceptions, or even fail to challenge them, all aspects of their seapower suffer.

In the nineteenth century, after the Opium Wars, the Chinese government tried to compensate for several centuries of deliberate neglect of its seapower with a rapid marination of its armed forces. But the lack of a wide maritime sector, corruption and a culture which scorned Western ways as much as it feared them combined to prevent the assimilation of the dynamic command and leadership styles required of operations at sea and so doomed this attempt to failure. As a result, China remained stuck in a 'yellow culture' of continentalism which has only recently begun to turn towards the 'blue'. This is illustrative of that 'sea-blindness' mourned by naval traditionalists around the world. Societies particularly beset with such images of the sea are likely to encounter real difficulty in developing their seapower.⁹

This problem and the adverse impact it is likely to have on the availability of people for the navy may well get worse, unless corrective measures are taken, because:

- Seafarers themselves in many parts of the world are becoming a rather scarce commodity, partly for the commercial reasons to be discussed later in this chapter. This reduces the pool of seafarers available for all aspects of maritime activity and who could perhaps challenge popular misconceptions about life at sea. While it may be argued that seafaring experience is now much less relevant than it was, and that a 'landsman' can punch buttons on a console as well as someone with maritime experience, people still need persuading of the virtues of doing it at sea. Nor should the requirements for seamanship even in the twenty-first century be underestimated.
- Sadly some seafarers might in fact rather share the views of life at sea taken by people ashore since they are often quite poorly paid, have to be away from home for long periods and may not be nurtured by their employers. The social revolution in expectations that is affecting people all round the world and increasing concerns for health and safety could all make a seafaring life seem relatively less attractive than employment ashore.
- The crews of navy ships are often smaller, but it can be argued that the lives of the survivors are more stressful than they were because they face greatly enhanced technological challenges and a wider range of tasks (everything from high-intensity war to dealing with the desperate victims of the people-smuggling trade).
- Nor should it be forgotten that some countries have severe manpower limits in any case. Kuwait and other Gulf states, for example, need recourse to expatriates in their navies simply because they cannot supply sufficient trained people from their own population. When it was formed, the Indian Navy faced the same problem, since it had, for example, only two Indians of commander rank, but subsequently proved able to grow, and more importantly sustain, a sufficient pool, if with some difficulty.¹⁰

For all these reasons the appeal of a safe, well-paid ordinary job at home is increasingly difficult for many to resist. In consequence the recruitment, and, in particular, the

retention, of high-quality personnel is becoming a serious problem for navies around the world. This is aggravated by the fact that it is precisely those skills demanded by navies (technological affinities, analytical ability, commitment, discipline and so on) which are most sought and, significantly, rewarded by industry ashore.

Around the world, navies are devising strategies to cope with this varied, demanding and complicated matter. A general push to reduce crew sizes, and therefore naval manpower, results in fewer people that have to be recruited and makes their retention easier, since enhanced terms and conditions of service become more affordable. The attention paid to the size and quality of living and sleeping accommodation in the Royal Navy's new Type-45 destroyer shows that crew comfort is properly regarded as an increasingly important element in warship and submarine design.¹¹ While old-timers might look askance at the mirrors, hair-dryer plugs and coffee machines now regarded as essential in modern warships, this is the new reality. Navies that arbitrarily reduce the size of the population pool from which they can fish by adopting recruitment and retention policies which exclude, or unnecessarily limit, the role of women and ethnic minorities are obviously storing up trouble for themselves.

Opinion surveys around the world continually show that job satisfaction (rather than simple considerations of money) is by far the most important element in the retention of skilled personnel. To keep its people, a navy evidently needs to be able to persuade them (and indeed the society from which they come) that what it is doing is worthwhile, necessary and possible. As far as its people are concerned, this is a navy's most important task.

3.4 MARITIME GEOGRAPHY

'Remember, sir, my liege...
The natural bravery of your isle, which stands
As Neptune's park, ribbed and paled in
With rocks unscaleable and roaring waters;
With sands that will not bear your enemies' boats
But suck them up to the topmast.'

Shakespeare, *Cymbeline*, III/2

Shakespeare reminds us of the centrality of geographical and topographical considerations to seapower and naval effectiveness. Geography has always been crucial to a country's strategic situation. As we saw in Section 2.4, Mahan thought this largely a matter of the conformation of coasts, the availability of harbours, the importance of rivers, soil fertility and the wealth of the interior, proximity to important sea lines of communication, ease of access to the open ocean and so forth. It might be imagined that in a thoroughly globalised world, physical barriers such as mountain ranges and oceans matter much less than they did; but while in theory this ought to be true, in practice considerations of maritime geography are just as important as they ever were.¹²

Geographic considerations of this sort still shape a country's approach to the sea and help determine its strategic agenda. The Dutch example shows how this may work. Geographically, they were positioned to dominate some of Europe's most important trade routes through the English Channel, and they had easy access to such important economic centres as Flanders, Brabant and the Rhineland, and the Baltic coast was not too far away either. The internal economy, which rested heavily on the Zuider **Zee** and inland waterways, supplied the wherewithal for a financial, social and governmental system that provided an excellent basis for the development of international trade. Nature favoured the Dutch in other ways too when changes in the Gulf Stream shifted herring spawning grounds to the south of the North Sea where Dutch fisherman could easily take advantage. Off-season fishermen used their boats to transport cargoes, thereby easing the Dutch into the lucrative international carrying trade. The imbalance between the size of the Dutch population and the productive capacity of their limited land area further stimulated the impulse to seek their fortune at sea—and so did their dependence on supplies from abroad. Against this background, it is hardly surprising that the Netherlands should become, and has ever since remained, a profoundly maritime country.

Much the same can be said of the United States. Its location means that most of its major trading partners, allies and enemies are overseas. Indeed, the whole nation was conceived from the sea. American ports are crucial to the survival and identity of the United States. Even when the country expanded from its original coastal settlements to the land beyond the Appalachian Mountains, its largest cities developed harbours on major rivers and the great lakes. Of the 20 largest and most important American cities, all but four have major harbours. Some of America's rivers themselves came to sustain commercial fleets equivalent to those of smaller countries. The Mississippi with its tributaries the Ohio, the Illinois and the Missouri, provides 2,000 miles of navigable river. Every year 400 million tons of cargo is shipped from Minneapolis to Cairo. Given its geographic setting, the maritime nature of the United States is hardly surprising.

But despite it all, Mahan worried that the riches of the American interior might seduce the people and the government away from a proper appreciation of the importance to them of the sea. Something of the sort, after all, has sometimes happened to the Canadians who have occasionally rejected 'the fading commercial glory of the maritime provinces and their archaic ocean-based economy and whole heartedly joined the central Canadian business empire'. Canada turned its back on the sea in this way after the First World War, and recovery was slow. If to this we add the sea-blindness of countries whose geographic circumstances are as ostentatiously maritime as, for example, New Zealand, it is clear that maritime geography is *not* an independent variable in the seapower equation. Instead, its effect, whether for good or ill, is determined by a country's perception, quite literally, of its place in the world.¹³

This can, moreover, change. When it was the capital of Yugoslavia, Belgrade had access to a long coastline with several good harbours; as the capital of Serbia, it is much less well placed. In 1993, after a 25-year war, Ethiopia was forced to cede independence to Eritrea, and with that lost all access to the sea. Three years later, Ethiopia sold its 16-ship navy (then moored in Djibouti) off to the highest bidder and entirely withdrew from the maritime scene. In contrast, the redefinition of the territorial sea from three miles to twelve, and the creation of Exclusive Economic Zones through the United Nations Convention on the Law of the Sea (UNCLOS) has completely transformed most

countries' maritime circumstances. In particular, many small countries find themselves with huge new swathes of marine territory that they now need to protect, often without the resources or the people they need for the job.



FIGURE 3.2 The Geographic Conformation of South-East Asia Determines its Strategic Characteristics

Because it is evidently so important to a country's security and prosperity, maritime geography has a major role in setting its strategic agenda. The strategic imperatives it sets can take a variety of forms. Amongst them are:

- *The need to preserve national unity.* In archipelagic countries like the Philippines and Indonesia, the coherence of the country depends on the sea communications that either bind it together or allow it to drift apart. Indonesia comprises some 17,000 islands; its very existence depends on the sea between the islands being seen as something that unites its inhabitants rather than divides them. This in turn depends heavily on the nature and success of maritime endeavour on those seas, both military and commercial. Less dramatically, the same applies to large countries with large rivers like Brazil or China where riverine maritime activity may serve exactly the same purposes. Countries with overseas possessions or far-flung islands also need seapower simply to stay together. The European colonial empires come into this category, as did

Oman with its East African dependencies and as does India with its island possessions around the Indian Ocean.

- *Maintaining balances with land borders.* Island states like Britain, Japan and Singapore are in a (fortunate?) minority. There are far more countries with considerable maritime interests like France, Germany, Russia, China, India and Bangladesh where the fact of having land borders means balances have to be struck between protecting them on the one hand and exploiting maritime opportunities on the other. China has suffered from having to defend long land frontiers against the peoples of Central Asia, and for long periods this prevented the Chinese from building navies consonant with its general status or the spread of its maritime trading interests. Exactly the same is true of India. Its land-border is about 9,900 miles, its sea frontier at 3,500 miles is about one-third of that—but so far at least the Indian Navy has received nothing like the share of India's defence resources that this proportion at first sight might suggest.
- *Enforced hostilities.* Geography sometimes makes enemies of countries through sheer proximity. Before the First World War both Britain and Germany felt they needed to be able to control the North Sea to prevent attack on their trade and their homelands. Their strategic imperatives overlapped in the same waters. Rear-Admiral Wolfgang Wegener subsequently criticised the German Navy for paying insufficient regard to such geographic considerations and for trying to solve their problems by tactical means only. 'Strategy', he reminded them, '... is the doctrine of strategic-geographical positions, their changes, and their deterioration.' He recommended an offensive strategy to improve the geographic position. This advice was taken seriously and the next time round, in 1940, Germany transformed the maritime geography of the North Sea by invading Norway.¹⁴

The maritime experiences of Spain and Russia provide two separate examples of how this can all come together. The existence of Portugal and Gibraltar means that Spain has the difficult task of defending three separated coasts with one fleet. Moreover, it has two cities in Africa—Ceuta and Melilla (with some associated islets and rocks)—to defend, plus the Canary and Balearic Islands. The security of this sea area is essential for the integrity of Spain. Moreover, Spain sits astride and depends on some of the world's most important shipping routes, with about 70,000 ships passing through the Straits of Gibraltar every year. To the south, the turbulent Maghreb poses a variety of social and strategic challenges to Spanish and west European security. All this helps explain the steady growth of the Armada and its interest in developing a modest expeditionary capability; but common borders with Portugal and France and the geographic extent and variety of the Spanish mainland have always posed major distractions from such maritime preoccupations.

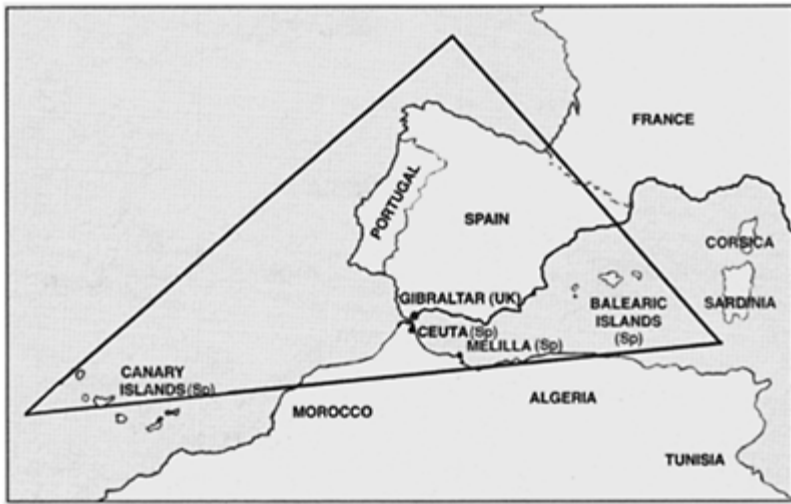


FIGURE 3.3 Spain and the Sea

Maritime geography has always been particularly unkind to Russia. It has four major coastal areas to defend, the North, the Baltic, the Black Sea and the Far East. This makes it extremely difficult for its naval force to be wielded as a coherent whole in a strategic sense or to be operated cost-effectively. Admiral Gorshkov put it this way:

The considerable difficulty for Russian seapower stemmed from her geographical position, which required having an independent fleet capable of ensuring the performance of missions confronting it in each of [four] far-flung theatres.

Moreover, Russian access to the open ocean is through four areas which are constrained by the climate or by the close proximity of strong hostile powers—or both. While never a great sea-trading power, sea communications are important to it commercially and strategically (for instance the Arctic convoys of the Second World War). The failings of Russian agriculture, particularly in the twentieth century, increased the country's dependence on sea-fishing. The connected absence of a large merchant class pushing for maritime endeavour and the imminence of far more serious strategic threats from Russia's menaced borders often combined to undermine the perceived importance of the navy still further. Russia, observed Mahan in 1900, 'can never be satisfied with the imperfect and politically dependent access to the sea afforded her by the Baltic and Black Sea',¹⁵ and indeed successive leaders of Russia from Peter the Great

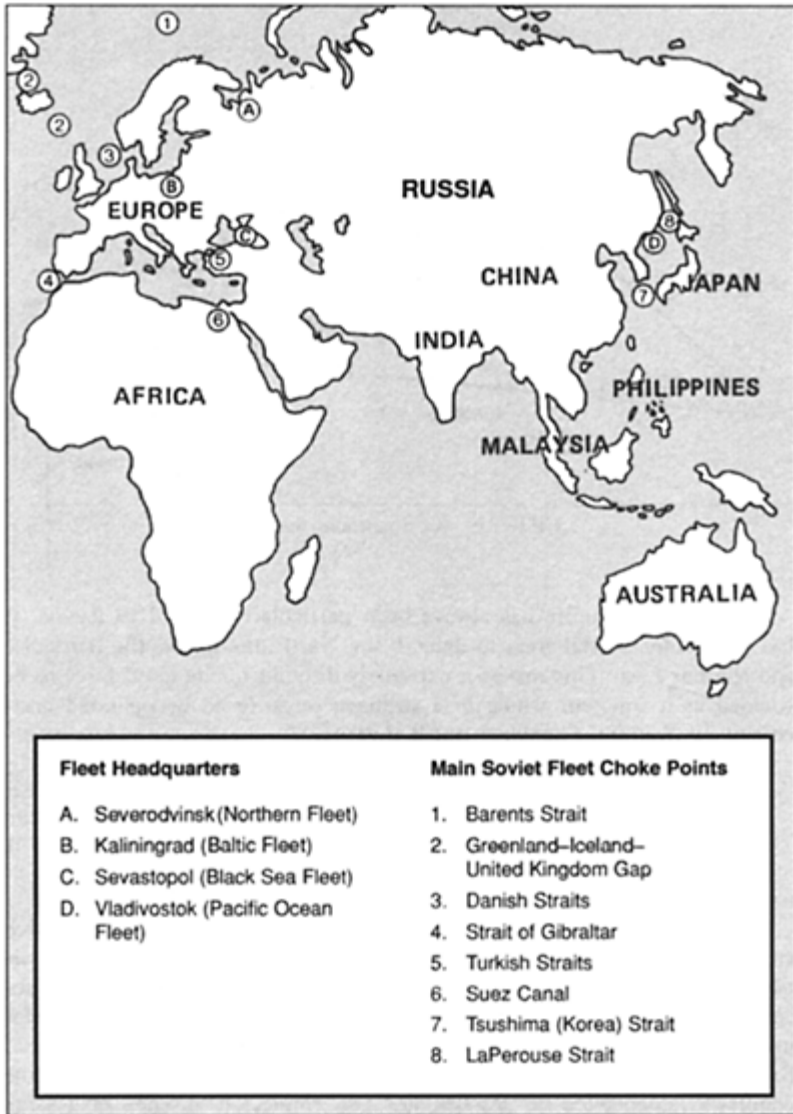


FIGURE 3.4(a) Russia and the Sea in Cold War Days



FIGURE 3.4(b) Russia and the Sea in Cold War Days: This Arctic Orientation Illustrates the Crucial Importance of Northern Waters to the Soviet Navy at the Time

to Stalin have realised the huge problems that maritime geography has set their country—and have been determined to do something about it.

Sometimes improvement came about through the success of the Russian Army (a point discussed later in this chapter) and through diplomatic pressure that sought to capitalise on it. In a deliberate and conscious manner which perfectly illustrates the way in which seapower can become an objective rather than an instrument of foreign policy, Stalin sought to consolidate the success of the Second World War and to do his best to ensure that the bad old days would not return. In 1944, Molotov, the Soviet foreign minister, told Trygve Lie, his Norwegian counterpart:

The Dardanelles, here we are locked in...Oresund...here we are locked in. Only in the north is there an opening, but this war has shown that the supply line to northern Russia can be cut or interfered with. This shall not be repeated in the future.¹⁶

Pressure was put on the Norwegians over Bear Island and Spitsbergen, on the Danes over Bornholm, on the Turks over the Dardanelles and the Caucasus border; through links with Yugoslavia, and more reliably with Albania, Russia became an Adriatic power for the first time since the eighteenth century; there was even talk (mainly in Moscow!) of

Stalin's being rewarded with Libya for his contribution to the defeat of the Axis powers. And far away to the east, Russia took over Sakhalin and the South Kurile Islands from Japan. Under the Soviet regime, the state did everything it could to develop these areas commercially, maintain rights in the Arctic, integrate all these far-flung areas into central political authority, and finally to develop a navy and maritime industries to match the challenge. It was one of the clearest and most ambitious efforts to develop seapower seen for very many years.

Maritime geography has determined the tasks of the Russian Navy through the ages and explains why 'the battle for access' is so central to Russian naval concerns (whereas it is almost taken for granted by the more fortunate Japanese and British). Sadly for the Russians, their efforts to improve their maritime situation during the Cold War ultimately fell far short of expectations, partly because of the inherent contradictions of the communist system in Russia, and partly because the Soviet Union's adversaries were able to target its continuing maritime and strategic vulnerabilities. Since the end of the Cold War, of course, Russia's maritime geography has got much worse.

The varied experience of Spain and Russia show the way in which maritime geography helps set a navy's character and composition, its tasks, and even the manner in which they may have to be performed.¹⁷

Coping with Geography

The general importance of such geographic concerns suggests a need to develop a strategy to cope with their naval implications. First, navies need to find out as much as possible about the ocean and what it has to offer. Sophisticated submarine operations, for instance, depend on high levels of knowledge of water currents, sea-bed topography, seasonal variations, and so on, in just the same way that ancient mariners needed to understand the patterns of the monsoon winds. Seriously investing in oceanographic research pays dividends—not least in that it has major commercial spinoffs as well, in terms of fishing, oil exploration and the like.

Second, maritime geography is not an independent variable. It can be altered, or got round:

- It can be improved by legal, political or military action. Working towards the beneficial application of UNCLOS, and most importantly developing the sometimes quite specialised naval forces required to administer the new sea areas that UNCLOS can provide, is one way of achieving this aim.
- Constructing canals or creating bases may be another. The strategic advantage of the Corinth, Suez or Panama canals was one reason for building them and became a key feature of maritime strategy afterwards.
- Securing, exploiting and defending bases has also always been an important part of maritime strategy because they provided fleets with a secure and unharried refuge, the easy supply of stores and necessities, somewhere for the repair and refit of ships and the recuperation of personnel. They give navies extra reach and endurance.

While much of this is still true, the range of modern weaponry tends to increase the vulnerability of bases. In Desert Shield/Storm, for instance, the US Navy derived enormous benefit from its access to ports in Saudi Arabia and Bahrain but those bases

were, as we shall see in Chapter 8, at least potentially the object of military attack. Equally, they may become unavailable for political reasons.

In some cases, imaginative responses and technological sophistication can compensate for geographic shortcomings. The vulnerability of bases can be dealt with by the creation of fleet trains, or even 'mobile offshore bases'. However, the ability to make the most of your maritime geography often boils down to a matter of resources.

3.5 RESOURCES

Finding the resources necessary for the construction and maintenance of a navy is a particularly demanding challenge for all countries, great and small. As one Australian naval officer put it:

The experience of the present day, particularly the difficulties encountered by projects such as the *Collins* class submarines, would suggest, short of major incursions into space, that navies continue to represent a uniquely complex and challenging manifestation of state effort.¹⁸

This has always been the case. When Nelson's favourite warship HMS *Agamemnon* was constructed at Buckler's Hard in Hampshire between 1779 and 1781 it used up the wood of 2,000 trees from the New Forest, 100 tons of wrought iron, and 20 tons of nails and copper rivets, 4,000 blocks and perhaps 30 miles of rope, much of which required regular renewal. *Agamemnon* carried 26×24lb, 26×18lb, 10×9lb and 2×9lb cannon and was a fighting weapons system produced by industrial processes that were at the cutting edge of the technology of the time. The supporting infrastructure that kept the Royal Navy going in the eighteenth century was probably the world's biggest and most sophisticated industrial

Nor is there any sign that advances in technology since that time have made the creation of a navy any less demanding. This is particularly the case for smaller, less powerful, countries. As the same Australian naval officer has observed, navies

place heavy demands on the domestic resources of their nations and on the hard currency reserves of their governments. Navies require substantial industrial and technological infrastructure to support their activities, infrastructure which in the case of the smaller services, may seem disproportionate in relation to the combat capability which it generates.²⁰

For smaller navies the issues will be sharper because, in dealing with new and unknown technology, for example, they can afford to back fewer horses in the race than can richer countries. For them, it is safer to wait for someone else to take the risks. In addition, Australia's experience with aircraft carriers shows that with single ships and tiny classes few economies of scale can be expected. The Royal Australian Navy's original cheap and cheerful carrier programme soon faced real problems with increased aircraft weights and landing speeds; in the end the Australians needed to acquire two carriers (HMAS *Sydney* and *Melbourne*) rather than one from the British.²¹

For a small navy like the Royal New Zealand Navy (RNZN) the cost of even a new frigate is quite daunting, especially at times when the local currency is doing badly. The same applies to the Gulf states, for whom fluctuations in the price of oil make long-term financial planning in, and for, navies very difficult. Eighty per cent of these countries' governmental revenue comes from oil; when market variations cause the yield to drop by half, as it did from 1996 to 1998, long-term naval costings become a nightmare.

Summarising such problems, one British naval officer argued in 1906 that small navies were bound to be inefficient and cost-ineffective:

There can be no adequate flow of promotion, no large system of training (the cost of naval training establishments will necessarily prohibit this), no opportunities can exist for giving wide sea-going experience with big fleets, and, unless great expense is incurred, the material cannot be kept up to date.²²

Larger countries have such problems too, of course, because the issue is not a simple matter of how much naval force can be afforded. Instead the real issue is how this compares with the size of the commitments that that naval force has to meet—and larger countries tend to have larger commitments to go with their larger navies. Even the Royal Navy of the eighteenth century, the world leader in its time, faced a severe resource problem of this sort during the War of American Independence. This had profound consequences at the tactical/operational level. It was acute shortages in manpower and resources that led Vice-Admiral Thomas Graves in 1781 to fall back on New York rather than go immediately to the relief of Cornwallis at Yorktown. Exactly 200 years later, the unviable extent of British defence commitments when compared with their resources forced the government painfully to choose between maritime and continental defence in the notorious Nott Defence Review of 1981.²³

All concerned with the Nott Defence Review acknowledged that Britain needed to maintain a strong land/air presence on the continent of Europe and a considerable maritime role in the Atlantic. However, it was felt that the parlous British economy of the time could not sustain both. Countries like Oman, which with UNCLOS have suddenly been faced with a huge increase in the extent of their maritime responsibilities, face a similar resources-commitments gap.

To some extent, this is a matter of choice, however. Commitments can be acknowledged and accepted but simply not met. Always the constraint is the fear of the harm that excessive defence spending might do the economy, maybe turning the virtuous circle referred to in Chapter 1 vicious, as it almost certainly did for the Soviet Union in the 1980s.

How much money a country chooses to spend on its navy is, to a large extent, a matter of choice. In the Russian case, extending over several hundred years, studies have shown that there is no particular connection between the amount of money spent on the navy and the extent and health of the Russian economy. When times were hard, the Navy did not always suffer proportionately; when they were good the Navy did not always benefit. So the extent to which countries can narrow the resources-commitments gap by spending more money on their navies remains a matter of striking a balance between competing risks. On the one hand, there are the strategic risks of not meeting the commitment; on

the other, there is the risk of damaging the economy if you try to. In the last analysis, deciding such matters is a political issue.²⁴

If a government really wants to, it can often solve a problem by throwing money at it. For instance, Spanish naval power virtually disappeared in 1700 but the government decided to devote major resources to its rescue and was able to produce some very good ships indeed. In April 1740, British newspapers were full of concern that it took three British 70-gun ships to subdue one Spanish equivalent. Despite its modest economy, Spain managed to build some of the biggest and the best warships of the time, such as the 2,879-ton *Santísima Trinidad*.²⁵

All this suggests that amongst the strategies by which the resources-commitments gap can be successfully managed are the following:

1. *Effective marketing* Because there are many other things governments and populations need to spend their money on, they need to be persuaded of the prospective role of their navy and of its value in assuring their prosperity and security. According to some, this has sometimes been the problem for the Royal Canadian Navy: 'Unfortunately, no one seems to be addressing the fundamental question, "What do we want the Canadian Navy to be able to do?" And until that question is answered, and the answer accepted politically, the Canadian Navy will remain at a crossroads.'²⁶

This will be more difficult for a country that has lost, or perhaps never had, much awareness of the importance of the sea. Surprisingly, given its geographic setting, this is often said to apply to New Zealand. In responding to such challenges, it is particularly important that the navy at least knows what it is for.

2. *Effective resource management* helps a good deal in every stage of the process from production of the resource at the beginning to the employment of naval resources at the end. In the eighteenth century, Britain developed a thriving industry, but it was the creation of a financial structure which allowed the country to build and maintain a large navy *on credit* that was crucial. The fact that governmental income rose and fell and was often dwarfed by the national debt did not matter because the latter could be serviced and managed by the kind of sophisticated financial infrastructure that a strong maritime economy helped develop.

Investment in governments (and in navies) was inevitably related to their reputation for probity and respectable resource management, at least in comparison with the standards of the time. This is why corruption and administrative incompetence were, and are, so fatal to naval endeavour.

Accordingly, naval officers should not get over-irritated by accountants and their never-ending search for value-for-money, intrusive financial discipline and cost-efficiencies; they too have their contribution to make to naval power.

The problem for many navies, perhaps especially amongst developing countries, is the lack of institutional machinery and a level of administrative efficiency that properly translates a mission structure (even if they agreed what it should be) into an appropriate and sustainable mix of platforms, weapons and people.

3. *The cultivation of effective friends.* The standard response of a country with an unsustainable gap between resources and commitments is to join forces, in some way, with like-minded countries. This might simply be a question of teaming up with some stronger power, although this can lead to the government scaling-down its

expectations for its own navy still further. This would increase levels of strategic dependence on allies who might not in the end turn out to be wholly trustworthy. Australia, Canada and New Zealand all signed up, perforce, to the concept of imperial defence led by Britain at the beginning of the twentieth century, but they all had anxieties that their local maritime concerns might not be wholly met by the imperial navy that resulted.²⁷

In some ways, the United States has assumed this role, and its allies face the perennial choice of wondering which will give them more influence over their patron—supportive action that is separated and independent (Australia assuming responsibility for running the Gulf sanctions operation during the Afghanistan campaign) or totally integrated into the patron's naval effort (Canadian ships being regarded as part and parcel of US Navy carrier battle groups).

These general choices are particularly acute when it comes to the acquisition of military equipment that cannot be produced at home. India, for example, depends for about 70 per cent of its military equipment on Russia and has frequently expressed its frustration at the lack of transparency in the acquisition process and the poor quality of the spares that sometimes result. The fact that so many of its current inventory of platforms, weapons and sensors are of Russian origin means that, in many cases, India is trapped into dependence on Russia. On the other hand, in the wake of its nuclear tests, India found itself the victim of an embargo which denied essential spares for a variety of US-supplied equipment, including Sea King helicopters. In such circumstances, it is not surprising that India should seek more independence of foreign suppliers through 'indigenisation' of its arms supply, using a variety of devices such as partnership deals in coresearch, co-production and local assembly. How far this strategy can go in view of the increasing globalisation of the world's defence industries, however, remains to be seen.²⁸

4. *Linking resources and strategy.* Resource management is unlikely to be resolved satisfactorily if the acquisition and expenditure of navy-related resources itself is not accepted as a crucial component of an effective and indeed overall maritime strategy. It is worth emphasising that resource management can be not merely a constituent of naval power but a means by which strategy is conducted. For instance, in the nineteenth century, the deterrent effect of British naval power partly rested on its demonstrated capacity to outspend any possible adversary.²⁹

Also, the search for resources could set the objectives and define the strategy of seapower. In the age of wooden ships, naval supplies (timber for the hull and masts, hemp for rigging, and so on) governed attitudes towards areas such as the Baltic or North America. In 1745, Admiral Sir Peter Warren reminded his colleagues that the conquest of Canada, 'would give us the whole fishery, a valuable branch of trade and a flourishing nursery for seamen, upon whom the welfare and safety of our country so much depend'. For much of the twentieth century, access to oil has performed the same role, being both a requirement for an effective maritime strategy and an important determinant of its performance.³⁰

3.6 A MARITIME ECONOMY

As we saw in the first chapter, the sea is, and always has been, a means of transport. Consequently, in most maritime countries there have usually been the closest of links between naval power and merchant shipping. Merchant shipping was both a source of maritime power and something that navies naturally needed to defend. So important was this latter function of navies that Mahan came close to suggesting it was the main reason for having a navy in the first place:

The necessity of a navy springs from the existence of peaceful shipping and disappears with it, except in the case of a nation which has aggressive tendencies, and keeps up a navy merely as a branch of the military establishment.³¹

Accordingly, the attack and defence of sea-borne trade were major features of the great maritime wars. This included the imposition of blockades, raiding, and a variety of *guerre de course* tactics on the one hand, and classic convoy-and-escort operations plus other forms of trade defence on the other. As we shall see in later chapters, the defence of maritime communications remains a major preoccupation since they are still militarily vital and central to the health of economies forced by largely geographic circumstances to be maritime.

In the eighteenth century, English country squires used to while away their idle hours by reading the monthly *Gentlemen's Magazine*. Whenever England was at war with France (which was all too common), there was a section at the back which listed British merchant ships lost and French and Spanish ones taken, complete with valuations of their cargoes. Its readers could tot up the totals and work out who had won that month. It was, for all the world, like scoring a cricket match.

Nor was there anything reprehensible about this very commercial approach to maritime strategy since mercantile prosperity was what Britain stood for. Robert, Earl Nugent, in a debate in the Lords in September 1745, said:

Let us remember that we are superior to other nations, principally by our riches; that those riches are the gifts of commerce, and that commerce can subsist only while we maintain a naval force superior to that of other princes. A naval power, and an extended trade reciprocally produce each other; without trade we shall want sailors for our ships of war, and without ships of war we shall soon discover that the oppressive ambition of our neighbours will not suffice us to trade. [If] our trade be lost, who can inform us how long we shall be suffered to enjoy our laws, our liberties, or our religion? Without trade, what wealth shall we possess? [A]nd without wealth, what alliances can be formed?³²

His point was that maritime trade depended on but also sustained a financial infrastructure that in turn provided the wherewithal to finance the war effort, keep the

economy going and to subsidise allies. As recent studies have made crystal clear, it was this whole system that financed Britain's industrial revolution, and underpinned Britain's strategy.³³

The merchant fleet was important for more immediate reasons too. It was an arm of defence. Its centrality to strategic success seems perfectly obvious. The magisterial *British Official History of British Merchant Shipping in the Second World War* quotes one Director-General as saying:

In the end with the assistance of our American and other allies, we were able to assemble the necessary quantity of shipping for every major operation, but every major operation was, notwithstanding, either curtailed in scope or delayed in time as a result of the limitations imposed by a shortage of the suitable shipping.³⁴

In fact, the official historian goes on to cast some doubt on this proposition, but makes the point that it took major efforts and a recognition of the absolute strategic importance of merchant shipping, and everything that went with it, to ensure that this was much less the case than it might have been.

Preoccupations with merchant shipping and its protection continue. In Kevin Falk's measured words:

Without a strong merchant marine a trading nation like Japan becomes dependent upon other nations for its economic existence. Such a high degree of economic dependency becomes a strategic issue, and thus translates directly into political dependency.

In the United States, many are now worried that the US merchant marine has shrunk from 3,500 vessels in 1945 to 322 today, that overall it has slipped to fifteenth place in the world, that only about 3 per cent of US ocean trade is carried in US-flagged ships, and that this share is likely to diminish still further. This matters because relying on the availability of foreign-flagged ships may prove strategically dangerous and commercially harmful. This could seriously compromise the United States' sealift capacity with implications for its expeditionary aspirations. Moreover it is proving difficult to move ordnance and ammunition through commercial ports. In the first phase of Desert Storm, only one layberth was available in Savannah, Georgia, for the load-out of Military Sealift Command's fast sealift ships. The conclusion seemed inescapable: '*Desert Shield* confirmed what every study...had concluded, and that was the United States had insufficient sea-lift to deliver the required weapons, supporting equipment and ammunition in an acceptable time frame.'³⁵

Instead, critics of current policies say the United States must ensure it has the hulls, the transportation system and the loading and storage capacity to meet US national security needs. To do this it must assure the conditions in which the US merchant marine can improve its current performance, through intelligent and targeted support.³⁶

These sentiments are echoed in maritime countries around the world, globalisation notwithstanding. In India, for example, relations between the navy and the merchant marine are close (in fact, a bit too close, with a lot of certificated naval officers being

seduced over into the rather more lucrative command of merchant vessels), but maritime specialists worry that neither gets the attention it deserves. In consequence, the overall position of the Indian merchant marine and the share of Indian trade it carries are losing out to the Philippines, China and Eastern Europe, largely it is said through excessive regulation by previous interventionist administrations. Moreover, the security of India's oil routes to the Gulf is a constant preoccupation of the Indian Navy.³⁷

However, it is also important to remember that there has always been far more to a maritime economy than merchant ships. These are merely the outward sign of a vast maritime system which also includes shipbuilding and repair, the fisheries, ports and land communications, marine insurance and a capitalist infrastructure to underpin the whole. The eighteenth-century Royal Navy may have been the biggest industrial enterprise in the world but it depended absolutely on the health of the maritime economy in general and on the skilled seamen, navigators, shipwrights and artisans, shipyards and materials supplies associated with the merchant shipping industry in particular. Coppering a ship's bottom made it much faster (at least until electrolysis weakened the iron rivets attaching the plates) but only Britain had the coke-fired smelting and steam-powered machinery to roll the copper plates in sufficient quantity.³⁸

The advantages of a more advanced shipbuilding industry were equally obvious in the nineteenth century when in the race between the British and the French to produce central battery ships it took the latter twice as long to build them—over seven years as opposed to three—and the product was usually inferior in performance.

It was the same in the twentieth century. Naval leaders become very concerned when, for example, they saw the warship-building industry atrophying through lack of orders. The British Admiralty of the interwar period, for example, became deeply alarmed at the malign effect of naval disarmament treaties on British warship-building capacities—with justification, as subsequent events were to show. Building 'holidays' would make it more difficult for shipbuilders to retain the skilled workers they needed.³⁹

The conclusion to be drawn from this great store of hard-won experience seems obvious. Merchant shipping, and its concomitants, are crucial to the prosperity of nations, and to their safety. Naval power depends on it; protecting it is arguably second only in importance as a naval imperative to protecting the homeland against invasion. Navies that forget this do so to their nation's peril because a healthy merchant marine and secure sea lines of communication are essential for national security in peace and war.

Challenges to Traditional Thinking?

If this is the traditional view of the importance of the marine economy to the development of seapower in general and naval power in particular, many of the assumptions on which it rests are under severe challenge in a rapidly globalising world for a whole variety of economic, technological, political, or strategic reasons. Let us consider some of the more common modern propositions in turn.

Warship-building is becoming increasingly globalised

The notion that any country, perhaps even a superpower, can sustain a purely national capacity to build all the platforms, weapons and sensors it wants is becoming increasingly

unrealistic. Western defence industries are in a world of rationalisation and mergers, often across national borders. Many developing countries, on the other hand, are setting up or encouraging their own maritime defence industries and eagerly looking for foreign partners to help them. For all these reasons, large projects now usually require industrial consortia, often spanning interests in many countries, to come together in cooperative enterprise. For example, the tender that went out from Australia for what became the Collins class of submarine attracted interest from two main consortia put together for the bid; interestingly, many firms had elements in both consortia, the difference in the bids lay largely in the way such elements were put together by the prime contractor—and in what was offered to the customer. Each element in these transnational industrial alliances has its own area of specialisation within a particular project (propulsion systems, anti-air sensors, gunnery systems, and so forth) and will expect due reward in accordance with the conventions of the *just retour*. In such a complex world, the old-fashioned glow of pride that a country's leaders got when watching 'their' latest warship, the product of so much national skill and effort, slide down the slipways seems increasingly anachronistic.

Perhaps, instead, it is now much less a matter of having the constructional skills that derive from a maritime economy, as having the money and the determination to buy them from the people who have. The real issue confronting the world's leaders therefore boils down to the best way of getting the necessary money!

Merchant shipping is also a global phenomenon

The merchant shipping industry indeed can be seen both as much a cause of globalisation as its contemporary form is a consequence of it. Shipping connections and information technology have done much to create the phenomenon of globalisation. The fact that an average container goes around the world 8.5 times a year shows just how global the maritime economy has become. As a result, it is now common for beneficial ownership of merchant hulls to be vested in shifting multinational shipping alliances, the finance extended by one country, the cargo owned by another set of companies, the ship in transit from one state to another and crewed by people from a range of other countries. So when a ship is attacked, it is often hard to tell who is being hurt, apart from the immediate victims. Shipping is best thought of as a global rather than a national phenomenon, needing to be treated as such.⁴⁰

Merchant shipping matters less, financially

According to most prognostications, the volume of world trade is set to rise enormously over the next decade or two. The UK Chamber of Shipping anticipates that world sea-borne trade measured in ton-miles will nearly double during this period, barring further recession. But this does not make it more important. Despite these increases, it is the electronic web which now joins the world's markets that dominates the transfer and accumulation of capital. This does not mean that merchant shipping does not matter; it merely suggests that it matters relatively less.⁴¹

The continuing over-capacity of the world's merchant fleet and the great reduction of the transport element in the cost of products means that shippers are operating to tighter and tighter margins. This means they must pay increasing attention to the costs of

insurance, crews, fuel charges, mortgage rates, all of which are themselves critically dependent on exchange rates which are themselves determined by a range of influences that may have little to do with the terms of maritime trade.⁴²

The actual operation of conventional merchant shipping is also a less important part even of the maritime economy, not least because of the increasing sophistication and diversification of its financial infrastructure and the increasing relative importance of marine resource industries. This explains why London with all its support services is still the centre of the world's maritime economy, even though Britain's merchant fleet has considerably diminished.⁴³

But all this is unseen and, in Britain, maritime activists worry that the *image* of seafaring is declining too, and remain concerned about a kind of creeping sea-blindness as people travel by air, as the size of the seafaring community and its social attractiveness diminishes. In a way, the merchant shipping industry is a victim of its own success: the more shipping costs reduce (and they have gone down tenfold since the 1980s) the less important shipping seems to be!

Strategically, merchant shipping matters less as well

Commercial pressures and the irresistible rise of the container and huge container ships like the *Sovereign Maersk* are leading to the disappearance of the smaller Ro-Ro and general freighters so useful to navies for purposes of sealift. Light though most expeditionary forces are, much of their equipment is really basically unsuitable for containerisation. Nor, often, are there the kinds of sophisticated port infrastructures needed to load and unload containerised expeditionary forces in the parts of the world in which they are likely to be operating.

Another consequence of globalisation is the decline of the national flag fleets so often lamented by traditionalists. The United States, and to some extent the UK and some others, have consequently decided that it is wise to reduce strategic dependence only on ordinary commercial shipping, especially in time of crisis. It is true that in the 1991 Gulf War 14 of the 15 ships that transported the British 7th Armoured Brigade to Saudi Arabia were foreign and that this did not seem to pose a problem.⁴⁴

None the less, the confidence that this problem can be solved by throwing enough money at it as easily as it was in Desert Shield/Storm may well prove unfounded. In a suppliers' market when the required ships are scarce, prices will rise. Even so, shippers may prove increasingly reluctant to risk long-term market share by breaking existing charters and contracts, whatever the short-term incentive. Merchant seamen themselves are becoming a rarer commodity, and in the future it may not prove quite as easy as it used to be to replace one crew by another if political conditions demand it.⁴⁵

Moreover, chronic and expanding over-capacity in the world shipping fleet has encouraged tighter and tighter margins and the development of a just-enough-just-in-time approach to shipping which tends to increase the tension between liberalised commercial operation on the one hand and the kind of restriction and regulation inevitably associated with military use and even military protection on the other. In the old days, this was simply a question of merchant shippers being reluctant to form up into convoys because of the delays involved in assembly and the port congestion so often encountered on

arrival. While these tensions may now take different forms, they are at least as acute now, especially in conditions short of war.

Accordingly, navies feel the need to reduce the risks at least to some extent by setting up their own specialised if quite modest military sealift fleets and by developing a particular interest in certain identified vessels, especially fast ships, such as the Royal Australian Navy's HMAS *Fervis Bay*.

A Strategic Approach to the Maritime Economy

A recent report issued by US Congressmen arguing for the restitution of a shipbuilding loan plan summarised the advantages of supporting such capacities like this:

Commercial shipbuilding helps to lower the cost of naval ships and it facilitates the incorporation of commercial best practices, technology, and innovation into new naval ships, while maintaining stable employment for hundreds of thousands of high-skilled domestic shipbuilders and vendors.⁴⁶

Acknowledgement of the mutual interest of commerce, the country and the navy in the health of key sectors of the maritime economy warrant a strategic and holistic approach to all aspects of the maritime economy.

On the one hand, government needs to avoid the excessive bureaucratic regulation of the shipping industry that characterised India for many years after independence; on the other, they need to steer well clear of the hands-off approach of the more wild-eyed monetarists of the late twentieth century to whom any form of state intervention was a mortal sin. Governmental support needs to be intelligently targeted, for example by tax regimes of merchant shipping aimed at stability (predictable 'tonnage taxes', not taxes on profitability) and on encouraging commitment to future training. Such approaches have improved the outlook for European shippers for the next century. Governments may well also need to foster local defence industrial capacity by encouraging responsible exports through, for example, export credit guarantees. Finally, governments have an important role in mediating between competing interests (fishermen vs. oil extractors and submariners, for example) but need to be clear on the limits of what they can do, without distorting local access to the global market. Governments need to be realistic, not least in shifting their emphasis from the maintenance of national and independent maritime capability and towards the preservation or the increase of a local share in an increasingly globalised maritime economy.

In recent years, the Chinese government has shown extraordinary determination in building up all aspects of its maritime economy and has helped create one of the world's largest merchant fleets with a port, transport and shipbuilding infrastructure to match. The Chinese authorities appear to have a very clear vision of the future importance of the sea and a sense of the strategic leadership needed to develop maritime interests. As so often, Mahan provides a useful summary:

[T]he government by its policy can favour the natural growth of a people's industries and its tendencies to seek adventure and gain by way

of the sea; or it can try to develop such industries and such sea-going bent, when they do not naturally exist; or, on the other hand, the government may by mistaken action check and fetter the progress which the people left to themselves would make.⁴⁷

The notion of a partnership between industry, government and the navy seems a useful one. Industry, disciplined by market competition, brings 'best practice' in all aspects of the maritime economy. Only industry can produce sustainable linkages with other industrial or shipping concerns across the world. Industry provides the maritime skills, artefacts and in many cases the people that navies need. Industry has things to teach both its partners. For example, the technology and operating procedures that produced the *Sovereign Maersk* already mentioned, longer than the Eiffel Tower, capable of sailing at 25 knots (fast enough for water-skiing) and carrying 6,600 20-foot containers but operating with a crew of just 15, certainly has ideas to offer naval architects. Specialist firms like Federal Express (Fedex) have much to offer military logisticians. In the right conditions maritime defence firms can use commercial linkages (including agreements for local assembly, co-design and co-production) to develop real indigenous industrial capacity. For struggling developing countries the example of the twentieth-century experience of Japan must be inspirational. First, in the construction of surface combatants, and then in naval aviation, the Japanese (despite a critical shortage of resources) were able to profit from and then outstrip foreign assistance.⁴⁸

For their part, navies need to stay alongside maritime industry in a spirit of partnership, tempered by the requirements of financial probity insisted on by government. Regarding industry as an adversary to be beaten into the ground through the hardest of bargaining is a recipe for long-term failure. Navies need to be clear about what kind of merchant ships they might require in a crisis, and need to stay in touch with likely ship-owners to track the ships in question in order to build up the advance and detailed knowledge of their characteristics that so facilitate speedy adaptation or loading.

Where the market is plainly not going to produce the capability they need (for example, in the necessary number of Ro-Ro ships, or deep research in non-commercial areas) navies will need to resign themselves to the necessity of paying for it themselves (through organisations such as the United States' Military Sealift Command), even if it means they can deploy fewer frigates and submarines.

3.7 SEAPOWER BY OTHER MEANS

Finally, we need to turn to one other source of seapower, one that has been frequently neglected by strategists (with the notable exception of Charles Callwell, as discussed earlier)—the role that the other services can play in developing it.

Landpower

It is a commonplace that armies must be especially configured and equipped if they are to be able to take full advantage of the opportunities provided by seapower. Most obviously, they need to be comparatively 'light' for fast and easy transport by sea, and reasonably

familiar with the disciplines and demands for them of sea transportation and sea-basing. Many contemporary armies are developing the concepts and equipment that will better suit them to operations of this sort, especially given the stress on expeditionary operations at the moment. For this reason, armies are tending to move closer to classic US Marine Corps thinking (somewhat to the alarm of the US Marine Corps it would seem).

Somewhat less obvious, though, is the reverse of all this—the contribution that armies can make to seapower and naval effectiveness. As we have seen, Charles Callwell is one of the few major strategists really to have studied this issue. Given the frequency with which armies have performed this service, this neglect is quite surprising.

There is certainly nothing new about it. Alexander the Great, for example, had a strong army but only quite modest naval forces. Success against the Persians, however, demanded control of the Mediterranean. Since this was clearly beyond the capacity of his naval forces, he concentrated instead on a series of army operations which knocked out one Persian naval base after another, until control of the Mediterranean was wrested from them—and without a single naval battle. Less dramatically and in much more modern times, the Japanese Army advancing overland on Russian bases like Port Arthur in the Russo-Japanese War of 1904–05 did much to alert Corbett to the complementarities of sea- and landpower and to weaken Russian naval power in the east, irrespective of events at sea. Forty years later, the Russian Army did likewise, although this time against the Germans.

The initial advances of the Wehrmacht in 1941–42 still further increased the Soviet Union's disadvantages in maritime geography, by seizing ports such as Riga in the Baltic and Odessa and Sebastopol in the Black Sea. But from 1943, the tide turned the other way as the victorious Red Army surged westwards, retaking all the territory they had previously lost. By advancing almost to the Danish border, by cutting Finland off from the north and moving into northern Norway, by occupying Romania and Bulgaria, by moving into northern Korea and taking Sakhalin and the Kurile Islands, the Red Army transformed Russia's maritime geography and put the navy into its best geographic position ever.

This suggests that the usual Mahanian model, by which power at sea is the means by which decisive influence can be exerted on events ashore, sometimes works in reverse. The whole of Russia's turbulent naval history in fact bears eloquent testimony to the extent that a country's seapower can be conditioned and determined by the success, or failure, of its armies.

Airpower

Before discussing the contribution that airpower can make to naval effectiveness, an exercise in the 'naming of parts' needs to be undertaken. Here, the term 'airpower' excludes both the air component of a fleet and land-based aviation that is wholly dedicated to maritime purposes. Both of these are discussed in the next chapter. Space, the new 'high ground', now militarised if not weaponised, is likewise held over. Even the airpower that is left may make a very considerable contribution to naval effectiveness, although it may also be seen more as a rival than an ally.

It is a rival in the sense of being able to perform some of the functions that were once the exclusive responsibility of navies. Thus in the Second World War the air forces of

both sides conducted major operations against the adversary's maritime forces. In European waters, both sides conducted air campaigns against the other's shipping and, when they came into range, their main naval forces. Norway, Dunkirk, Crete, all saw very significant sea-air battles in which the naval forces suffered losses equivalent to a major surface engagement. By denying the enemy the freedom to operate at will at sea, and by significantly enhancing the battle prospects of friendly naval forces, the *Luftwaffe* in these campaigns was, in effect, performing naval functions and so could be regarded as a constituent of (German) seapower. Many examples can be found in the Pacific War. In the Battle of the Bismarck Sea of March 1943, to give just one example, a Japanese invasion fleet heading for New Guinea was completely overwhelmed by the efforts of Allied airpower, usurping, in a sense, the navy's historic antiinvasion responsibility.

Airpower could also be an ally, helping the navy fight its war. RAF Bomber Command of the Royal Air Force played a significant role in helping the Allies win the Atlantic campaign, for example. Its aircraft attacked U-boat construction yards at Bremen and Hamburg, specialist parts of the U-boat infrastructure such as the Zeiss plant in Dresden that made periscopes, and submarine pens at St Nazaire and La Pallice. An extensive mining campaign was also carried out. More generally, Bomber Command conducted innumerable raids against the German surface fleet, starting with some extremely costly daylight operations in the autumn of 1939 and ending with the final demolition of Germany's surviving heavy units in the Baltic in the last weeks of the war. If there is controversy about the aerial contribution that Bomber Command made to the maritime war it is only that more could possibly have been done had its strategic priorities been different. Few would dispute that it made a significant contribution to the maritime campaign, and fewer still that capable, modern land-based aircraft are now at least as capable of doing so.

Joint Operations

The distinctions between sea, air, land and indeed space power are getting increasingly blurred. Disputes between the services over who should own what platform are becoming steadily more futile. This, together with a growing strategic imperative to cooperate more closely in the conduct of expeditionary operations, has led to a marked growth of interest in the conduct of joint operations, jointery (or, as the Americans say), 'jointness'.

There is, of course, nothing new in the concept. The emphasis on the 'combined arms approach' was a leading characteristic of the armed forces of the Soviet Union during the Cold War. This partly reflected the geographic circumstances in Russia which have already been discussed: 'Co-operation between the army and navy in the struggle for access became the hallmark of Russian naval history and gave that history a distinctly un-Mahanian cast.'⁴⁹

A pragmatic approach combined with strictly limited resources introduced healthy realism into much of Russia's naval planning. Most Russian admirals were unpersuaded by the notion that they should be guided exclusively by a naval strategy that was a universal science with rules identified for all time by the likes of Mahan and Corbett and from which inevitably flowed an idealised notion of what a navy should be. We saw, in Section 2.2, what Admiral Chernavin, Gorshkov's successor as the Navy's Commander-in-Chief, thought about this. As a result, the contrast between their behaviour and, say,

the furious internecine warfare of the late 1940s in the United States, or the 1950s and 1960s in Britain when the services (and especially the Navy and the Air Force) were at each other's throats, could hardly be more stark.

It is, however, unsurprising that there should be tensions between the services, because they operate in different environments and, resources being finite, their needs often compete. Moreover, the historical experience of the services differ and this contributes to their having distinctive strategic cultures, which may even find expression in different semantics:

We all speak different languages. For instance if you asked the Navy to 'secure a building' they would turn off the lights and lock the doors. The Army would occupy it and let nobody in. The Marines would assault, capture it and lay down suppressed fire to hold it. The RAF on the other hand would lease it for three years with an option to buy.⁵⁰

Indeed, some would argue that constructive tension between the services is a good thing because it ensures that all options are considered and identifies alternatives for policy-makers to choose between. The compulsion to 'beat Army' is good for team spirit not only at football matches but more generally, especially when there is not a common adversary out there on which such energies can be focused. For all such reasons there is a good deal of 'tokenism' in joint operations, and indeed some very real resistance to the whole idea. The opinion of the US Navy's Chief of Naval Operations (Admiral James Watkins) on the Goldwater-Nichols Act of 1986 was: 'You know, this piece of legislation is so bad, it's, it's ... in some respects its just un-American.'⁵¹ This kind of principled resistance in the drive towards more of a focus on joint operations slows a process that is already difficult. The particular reasons for this vary from country to country. In India, for example, the right words are said, an integrated defence staff under a single chief has been established, they do have joint theatre commands, and both a Permanent Joint Force Headquarters (PJHQ) and the concept of joint doctrine are emerging. On the other hand, both the Navy and the Air Force remain worried about the prospect of Army domination under these arrangements. Moreover, to ensure democratic control of the armed forces, the Indian Ministry of Defence is dominated by civil servants and politicians, and the notion that there should be a powerful and centralised military figure operating there raises constitutional anxieties.

None the less, the drive towards joint operations continues—for two main reasons. The first is a generalised sense that the resources-commitments gap that all countries face is unlikely to be bridged if inter-service competition produces wasteful duplication. This is true, irrespective of the size of the forces involved. The particular problem many face, however, is the lack of a 'purple centre' to drive it through against the opposition. What may make the difference is experience of the second of the two incentives for change, an acute operational imperative. In India's case, the incentive was the very evident and dangerous failure of its military intelligence services to detect mass intrusions into the Kargil sector of Kashmir in 1999.⁵²

The same incentive applies to the United States, too, where joint thinking is nowhere near as advanced as it is, say, in Britain, perhaps because in the United States the individual services *can* achieve so much on their own. But there was none the less

general acceptance that, even in the very successful 1991 Desert Storm operation, grave operational deficiencies were revealed that could be traced back to poor inter-service co-ordination. This was particularly evident in two areas:

- *The conduct of the air war.* There were severe differences of opinion and approach between the US Air Force and the US Navy. The latter felt its opinions and needs were being neglected (for example, in airtanker support and in the approach to Iraqi air defence, where the Navy wanted them destroyed but the Air Force were content for them to be merely suppressed). The Air Force insisted on a single Air Tasking Order (ATO) and a Joint Force Air Component Commander (JFACC) who actually commanded rather than co-ordinated. The Navy resisted this because, 'They feared that an Air Force General, not understanding naval warfare and ordering naval air sorties somewhere at a crucial time, would deprive the fleet of its air and surface defence.' As a result of all this, securing a naval contribution to the ATO was a ponderous and inefficient process which made the air campaign less efficient than it could have been.⁵³
- *Operations at sea.* Admiral Mauz, the local three-star naval commander (NAVCENT) felt that his place was at sea and was reluctant to provide sufficient high-level representation at General Schwarzkopf's (USCINCENT) Joint Force Headquarters (JFHQ) in Riyadh. This played a part in reducing the effectiveness of some naval operations. This particularly applied to the Navy's inability to deal with the Iraqi mine-laying operation which was to produce so much trouble later on: 'Frustrated by USCINCENT's repeated refusal to allow NAVCENT to prevent minelaying activity, Vice Admiral Arthur vowed that if he caught the Iraqis doing it, he would blow them out of the water without asking anyone.'⁵⁴

Through the rest of the 1990s and into the twenty-first century the United States has been seeking to improve its capacity to conduct joint operations by developing the following *instruments for jointness*:

- interoperable systems, procedures and communications;
- people who are experienced and knowledgeable;
- mutual trust and respect;
- joint doctrine;
- command and control structures that do not hinder joint operations.

If used properly, these 'instruments of jointness' should ensure close cooperation without 'dabbling in component business'. It is plainly important that the concerns of all the services involved are recognised and addressed. Moreover, the 'slice of the action syndrome' in which all the services insist on representation should be avoided; instead, the aim must be to select, and if necessary tailor, the force most appropriate for the particular task in hand.

Clearly, joint operations come in a hierarchy. Pokrant identifies them as:

- *Deconfliction*: where the aim merely is to avoid mutual interference. This can be dealt with comparatively easily—for example by geographic line drawing.
- *Harmony of action*: where effective co-ordination ensures that all targets are dealt with and all contingencies covered.

- *Combined arms*: where there is an inspired integration of effort. 'In modern warfare, any single system is easy to overcome; combination of systems, with each protecting weak points in others and exposing enemy weak points to be exploited by other systems, make for an effective fighting force.'⁵⁵

There is little doubt that the complicated business of developing the capacity to conduct joint operations more effectively will be high on the agenda of service chiefs in the twenty-first century. Success will depend on each service continuing to be expert and proud of its performance in its own particular domain. A degree of creative tension amongst the services should be accepted as a means of guarding against the tendency to 'level down' to the lowest common denominator between them, since the measure of the success of true joint operations is that each service operates more successfully with the others than it could on its own. This needs to be true at all levels of war, strategic, operational and sometimes even the tactical. During Desert Storm, for example, British and US shipboard helicopters were able to dispose of all the Iraqi fast-attack craft they encountered, partly because the air superiority provided mainly by land-based air gave them complete freedom to operate. The ability to conduct joint operations has therefore become a particularly important constituent of seapower and naval effectiveness.

Coalition Operations

Much of this applies equally well to the conduct of combined or coalition operations with the navies (and, indeed, the other services) of allies as partners in a particular campaign. Here, too, one of the aims is to increase the effectiveness of individual navies in helping secure their country's strategic objectives. Here too the same hierarchy of levels and methods of cooperation can be discerned. The big—and perhaps the only real—difference between the two is that in coalition operations there is also the crucial requirement to find sufficient *political* cooperation for the coalition operation to work. Nearly always this is indeed the biggest problem. It tends to find its chief expression in the nature of the rules of engagement issued to participating forces. Harmonising these politically and operationally is very often one of the force commander's biggest problems. The political dimension of this is further discussed in Chapter 8.

More immediately, the force commander's task is to make the composite force as effective as its platforms, weapons and sensors should allow it to be. One tactical episode during Desert Storm makes the requirement, the complexity and maybe the rewards quite clear. On 25 February 1991, the Iraqis fired a Silkworm missile at the Anglo-American naval force centred on the battleship *Missouri*, which was in the northern Gulf acting in support of a group of Royal Navy minesweepers operating off the Kuwait coast. The Silkworm was detected by HMS *Gloucester*, who warned all other ships in the area. The two American ships USS *Missouri* and *Farrett* both immediately fired flares and chaff to decoy the missile away. The two British ships did not. After their experience in the Falklands campaign when a similarly seduced Exocet missile flew through a chaff cloud, reacquired and then fatally attacked the merchant ship *Atlantic Conveyor*, the Royal Navy has regarded such missiles as something to shoot down not simply decoy, and firing chaff makes this more difficult. In fact, HMS *Gloucester* did indeed manage to shoot down the Silkworm, but the episode graphically illustrates the problems that may occur in forces with different sets of equipment, assumptions and procedures who are not totally used to

working together. Similar problems in co-ordination occur *within* national navies too, of course, but reduced familiarity tends to make the problem worse in multinational naval operations.⁵⁶

In theory, the solutions are simple to describe, being very similar to the requirements of joint operations that have already been noted, but they are often very difficult to implement. They are easiest at the lowest 'deconfliction' level of cooperation, where national component commanders exercise command authority in specified and separated geographic areas and operate in parallel with allied operations elsewhere, and where there is no designated overall maritime force commander. Complete integration, at the other end of the scale, offers advantageous prospects of real synergy, but is far more difficult to implement.

The means of maritime cooperation between national forces are many and various. Some are overtly political and include: a common perception of threats; an equitable sharing of burden and risk; an agreed agenda for action that identifies the mission, the criteria needed for its accomplishment and what happens afterwards. Some are more narrowly operational: effective means of command and control at the tactical and operational levels; shared doctrine and publications such as NATO 'Exercise Tactics' (Extacs); information and intelligence exchange; a unified tactical picture; common perception of threats; harmonised rules of engagement; agreed allocation of forces to tasks, and so forth.

Most of all, perhaps, coalition operations require familiarity through previous exercises and operational experience and a coincident set of political perceptions and objectives. This is plainly not easy for, as Winston Churchill once remarked, 'In war it is not always possible to have everything go exactly as one likes. In working with allies it sometimes happens that they develop opinions of their own.'

It may well be that 'creative tension' of this sort has as much to offer in coalition operations as it does in joint ones, producing a dialectic that in turn progresses the operation. On the other hand, it may produce muddle and confusion. The more successfully these and other issues in cooperation are tackled, the greater the contribution that coalition operations will make to naval effectiveness.⁵⁷

Seapower (the ability to influence behaviour by what is done at or from the sea) can be built on activities that are joint *and* combined of course. In Enduring Freedom, RAF tanker aircraft refuelled US Navy F14 Tomcats *en route* to Afghanistan from their carriers in the Indian Ocean. Once there, they were directed to their targets by special forces on the ground, targets that perhaps might have first been identified by a Predator unmanned aerial vehicle.

3.8 DOCTRINE

The British break down the fighting power of a military force into three components. One is the physical component, that focuses on platforms, weapons and sensors and on the capacity to supply and use them effectively. Another is the moral component, the ability to get people to fight, which is a function of their motivation, leadership and management. But there is also the third, conceptual component; this helps determine how well the rest of a military force's fighting power is used. It is the thought-process that lies

behind the conduct of maritime operations. The importance of this conceptual element in fighting power was the theme of the last chapter.

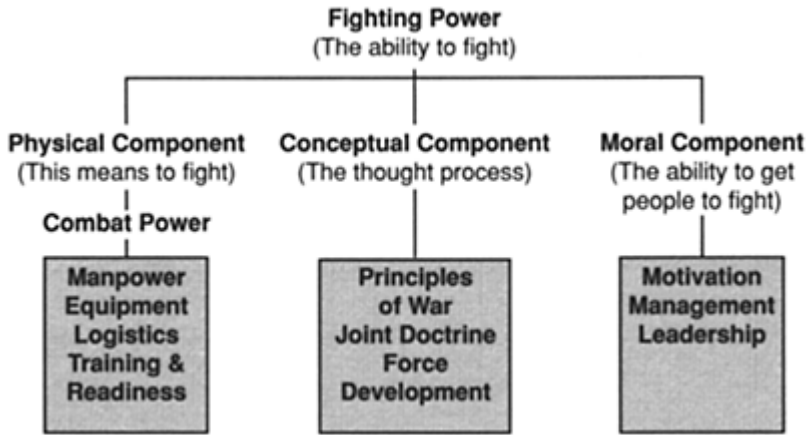


FIGURE 3.5 Components of Fighting Power

(Source: loosely based on MOD (UK), British Defence Doctrine)

Doctrine is an important element in the conceptual component of fighting power. It is a great 'force multiplier', enabling the best use to be made of limited means, since it helps develop force coherence, uniformity, reliability and predictability. The trick, as we saw in Section 2.2, is for it to do this without stifling originality and initiative. In the same way, doctrinal understanding facilitates cooperation with armies and air forces and with the military services of allies and coalition partners at all levels of war. Lastly, an interest in doctrinal development encourages the notion that thinking about maritime purposes and procedures in times of turmoil is a front-line task, not merely something to be conducted by consenting adults in private when there is nothing more important to do. All of these consequences are likely to make maritime forces more professional, more useful and more cost-effective, and therefore will contribute quite significantly to the development of a country's seapower.

Chapter Four

Navies and Technology

4.1 INTRODUCTION

This chapter will review the nature of navies, the most obvious of the constituents of seapower considered in this book, and will focus on the likely impact of technology on their composition, functions and future importance.

4.2 CLASSIFYING NAVIES

The first issue, of course, is what do we mean by ‘navies’? Not books but whole libraries have been written on this deceptively simple question. There is a widespread notion that there are small, medium and great navies, and many have tried to describe and analyse these categories more precisely. Perhaps the most sophisticated of these various attempts at classifying navies was by Eric Grove, who produced the following nine-fold hierarchy on the basis of previous work by Michael Morris:

1. Major global force projection navy—complete.
2. Major global force projection navy—partial.
3. Medium global force projection navy.
4. Medium regional force projection navy.
5. Adjacent force projection navies.
6. Offshore territorial defence navies.
7. Inshore territorial defence navies.
8. Constabulary navies.
9. Token navies.

Illustrations of these categories would include the US Navy (Rank 1); the Soviet Navy of 1990 (Rank 2); the French and British Navies (Rank 3); the Indian, Chinese and Japanese Navies (Rank 4); Portugal, Israel, South Africa (Rank 5); Norway, Egypt (Rank 6); Oman, Singapore (Rank 7); Mexico, Sri Lanka (Rank 8); no examples, as it sounds too insulting, for Rank 9.¹

These are evidently difficult and dangerous waters, but it is worth briefly looking at the criteria such scholars use for their classification systems. These include the following:

Table 4.1 A Function-Based Naval Hierarchy

<i>'Power'</i> <i>Group</i>	<i>Naval Mission Capabilities</i>					
	<i>Strategic Deterrence and Compellence</i>	<i>Power Projection</i>	<i>Sea Control</i>	<i>Naval Diplomacy</i>	<i>National Security and Constabulary</i>	<i>Humanitarian Assistance</i>
Major Naval Powers	Yes	Yes	Yes	Yes	Yes	Yes
Medium Naval Powers	No	Mainly Cooperative	Limited	Yes	Yes	Yes
Small and Coastal State Navies	No	No	Over Own Waters	No	Yes	Within Own Waters

Source: Haydon (2001).

Size and nature of the fleet

Classification should not be based on mere 'bean-counting exercises', which disregard such issues as technical quality, professional skill and maintenance efficiency. But to some extent the possession of given numbers of large surface combatants is often regarded as a rough indication of relative strength. It is certainly true that maintaining large ships is especially demanding in terms of money and manpower for smaller navies. While there is a rough correlation between the ambitions of a navy and the size and individual fighting capacity of its main units, it is difficult to push the observation much further than this.

Geographic reach

This is another commonly used characteristic. While it can relate to a navy's capacity to cope with the sea states to be encountered in coastal waters at one end of the scale and in the open ocean at the other, this criterion usually relates to a navy's capacity to operate away from home. The problem here is the issue of degree. The fact that Israel managed to sail its fast-attack craft (FACs) direct from France, or South African units sail across the South Atlantic to participate in exercises with South American navies, does not make either of them 'regional' in the sense that the Indian Navy is. Clearly, this characteristic has to be qualified with considerations of what such navies can do when they get 'there', and for how long. The capacity to operate and maintain naval forces at a distance is none the less a useful partial indicator of the relative strength of a navy.

Function and capability

Here the relevant questions are about what a navy might be used for—ranging from such constabulary duties as fishery protection at one end of the scale to the conduct of expeditionary operations in a high-intensity environment at the other. Some tasks are deemed more ambitious than others, so navies that aspire to the more demanding ones are regarded as propelling themselves into a higher category. As Nicholas Rodger explains, the Royal Navy moved into a higher league when it graduated from sea-denial in local waters to sea control in distant ones. Peter Haydon has an attractively simple function-based naval hierarchy, as shown in Table 4.1. Here the problem is that the functions of navies of very different size and ambition are often the same, being distinguished merely by questions of scale. Capability is a subjective and relative indicator and, moreover, often only finally demonstrable in war.²

Access to high-grade technology

In the past, this might be indicated by the possession of capital ships, such as the gilded, three-decked *Sovereign of the Seas* of 1637. Probably the most powerful individual warship in the world at the time, its mere existence put the Royal Navy into the first division of the world's navies, and it was built for that purpose. Likewise, the nineteenth century saw a race between various European navies in the production of major warships incorporating the latest technology in the shape of armour plating, guns or means of propulsion. Countries were prepared to spend money on this race because they concluded that being ahead mattered internationally. The relative order of the navies of South America in the early twentieth century was likewise determined by their battleship holdings. The association of a strong battlefleet of such vessels with seapower has been so close, historically, that many have taken them to mean much the same thing.³ Having the latest information technology (IT) may be the modern equivalent.

However, to be operationally significant, high-grade technology needs to be maintained and operated effectively and often is not; simply having it is not enough. Through the eighteenth century, for instance, the French Navy and its allies often had better individual ships, and occasionally more of them, than did their usual adversary, the Royal Navy, but always considered themselves second best.⁴ The US Navy lost the Battle of Santa Cruz in 1942 when they had radar and the Japanese did not, largely because it was misused on the carrier *Hornet*. High-grade technology is a factor in the relative power of navies but not necessarily one that determines it.

Reputation

Just as the power of countries seems partly to reside in the perceptions of it by others, the reputation of a navy, established over the years, may be a considerable factor in its strength relative to others. This was plainly at the back of Admiral Cunningham's mind, in his determination to rescue the British Army from Crete, against all the odds of modern airpower in 1941. In both world wars, the reputation of the Royal Navy made the German Navy more wary of tangling with it than the operational realities necessarily required. The same was true of the French in the eighteenth century.

Sometimes, moreover, the reputation of a navy in fact derives from the reputation of the country from which it comes. A little British gunboat puttering along a Chinese river in the nineteenth century was powerful because it was the symbol of a mighty world empire, not because of the popgun on its prow or its tiny crew. The status of the navy of a powerful state can be quite disproportionate to its own inherent strength. A Chinese frigate nowadays needs to be encountered with respect not merely in recognition of the weapons it carries, but also of the simple fact that it is Chinese.

Naval reputations do not, however, appear from nowhere. There has to be a degree of substance to them. They are established on the basis of previous success that largely derives from factors of the sort listed here.

4.3 ESTIMATING RELATIVE EFFECTIVENESS

There is, it would seem, no single criterion by which the relative status of a navy can be estimated. Instead the power of a fleet is a complicated amalgam of many, or indeed all, of the characteristics reviewed above. In isolation, none of them means very much.

For instance, the navy hierarchy described above rests largely on the proposition that some functions are more demanding than others, and that navies that aspire to perform them are in a different category from those that do not. In this case, Grove comes to the sensible and pragmatic conclusion that power projection is more demanding than the defence of maritime territory, and that performing both functions becomes more difficult as the area involved increases in size. This verdict rests on a combination of the characteristics of function, reach and professional skill.

Several other conclusions can be derived from this analysis:

- Navies of very different sizes often have the same functions, although the area over, or the extent to, which they perform them may differ. Small/medium navies may engage in bitter struggles for sea control just as big ones do; like their smaller counterparts, large navies may engage in very localised riverine and estuary operations (as did the US Navy in the Vietnam War).⁵
- Navies face many of the same challenges and difficulties. They all have to deal with the problems and opportunities posed by new technology, personnel recruitment and retention, the media, changing legal situations. For example, the debate between navies and air forces over the control of maritime aviation seems often to take the same form irrespective of the size of the navy or the air force in question! Most obviously, all navies have to deal with the sea itself and this too tends to enforce commonality. All these factors contribute to the fraternity amongst sailors so often remarked upon by analysts and sailors themselves.⁶
- The power of one navy is a relative thing which can be assessed only in comparison with that of another navy, given the commitments they both face. A large navy faced with huge commitments may in fact prove surprisingly vulnerable to a much smaller navy with very limited commitments. It was always the hope, for example, of the Royal Norwegian Navy during the Cold War that (despite its relative fighting disadvantage on paper) it would be disproportionately effective against the Soviet Northern Fleet. The Norwegians hoped this would follow, partly because they would be fighting in their own fjords and partly because the Russians would have a lot of

other things to worry about as well. The need to set the power of a navy against the size of its commitments is often overlooked, especially by bean-counters.

Explaining Relative Effectiveness

In Chapter 1, the point was made that power is both an output and an input. So far, in this chapter, we have been considering the power of navies as an output, in other words, the relative effect that some navies have on other navies, states and people.

In the course of this, however, it became clear that all those characteristics of navies that were ‘outputs’ in the sense that they helped define their relative status were, confusingly, ‘inputs’ in that they were constituents of naval capacity as well. Access to high-grade IT, for example, not only provides a useful means of comparing one navy with another, it is also a key constituent in the fighting capacity of that navy. This means that all of the characteristics discussed above need to be thought of as both inputs and outputs.

But they are far from being the only constituents of naval capability. Amongst the others that ought briefly to be identified are the following. The first three should illustrate the vital point that there is much more to naval capability than platforms, weapons and sensors.

The professional skill of a navy’s people

In its struggles with the Spanish Navy, especially when dealing with the Armada, the English fleet derived huge advantage from the fact that its seamen could deliver a rate of fire of one to one-and-a-half rounds per gun per hour, while the Spanish could only manage the same *per day*. This was largely a matter of superior training. As a general rule, the shiphandling skills of the Royal Navy during the French Revolutionary and Napoleonic era were better than their French adversaries, partly because they had more opportunity and space in which to practise them. Sometimes it was also a question of quantity as well as quality. The first generation of Japanese naval flyers in 1941–42 were very highly skilled (probably better than anyone else) but the Imperial Japanese Navy’s inattention to the need for reserves, coupled with wartime attrition, produced a situation in which, a couple of years later, ill-trained if immensely courageous pilots could only realistically attack ships by flying into them.⁷

For many years, the small Israeli Navy was superior to its adversaries, despite being much smaller and more constrained geographically, by virtue of its offensive outlook, better training, sufficient technology and operational initiative. The professional skill of its people is often demonstrated by a navy’s operational flexibility and capacity to innovate. There is much debate about whether Nelson’s famous doubling of the French line at the Battle of the Nile in 1801 was the product of a previously arranged plan or of Captain Foley of HMS *Goliath* seeing a tactical opportunity and going for it, knowing that Nelson would approve. Either way, it showed what a highly motivated, skilled and confident band of brothers can achieve against the odds.⁸

Readiness

It was in acknowledgement of the huge operational advantages that derived from readiness that navies became permanent or 'standing'. As Nicholas Rodger has argued of the permanent galley squadrons of France, Castile, Genoa, Monaco and Portugal:

Such a standing force was ready to take the initiative or respond to threats with a speed which no requisitioned fleet could possibly match. With the sea effectively open to all, the side which could mount its raid or expedition before the other had excellent opportunities of forestalling or disrupting the enemy's projects. For this reason even a small squadron of the king's own ships was of immense value for they could be made available when he wanted them, long before the ponderous fleets of requisitioned merchantmen could be assembled.⁹

The next expensive and demanding step in this evolutionary development was to be able to maintain such standing forces at a distance from the home base. By the sixteenth century, European navies were developing the capacity to do this, most obviously perhaps the Portuguese in the Indian Ocean. The advantages of readiness are equally obvious now.

Supply and infrastructure

Readiness often boils down to questions of supply and administrative efficiency. Here again a historical commentary makes the essential point:

Warships were and still are the most complex and advanced of all artefacts. To build and operate them requires a mass of technical, industrial and professional skills, ashore and afloat, and a sophisticated system of management to mould them into an effective whole. Above all it requires long-term commitment for seapower which cannot be improvised. Ships can be constructed relatively quickly, but the skills and capabilities which make up an effective navy can only be built up with long years of investment.¹⁰

During the eighteenth century, the French discovered that building a first-class navy was not the problem. The difficulty lay in maintaining it. As a rule, in fact, French ships were better designed than British ones—a French 75-gun line-of-battleship was the equivalent of a British 90; the fatal weakness in the French fleet was the supply system that lay behind it.¹¹

The crucial importance of logistics and supply in all military operations is increasingly recognised. Given the slowly shifting ratio of modern forces from 'teeth' to 'tail' this is just as well, but there will probably always be a tendency to invest in the showier aspects of seapower (glitzy platforms) at the expense of boring things like ammunition stocks. All experience warns of the dangers of allowing navies to be 'hollowed out' in this way.¹²

Balance

The sailor's traditional preference for a 'balanced fleet' is often ridiculed by those who believe it to be the consequence of a failure to tell what is important from what is not. It is likened to trying to back all the horses in a race, a tactic that is rarely affordable. Better to be master in some trades rather than mediocre at many. But, on the contrary, a navy that maintains a wide range of skills is best placed to cope with a variety of expected and perhaps unexpected operational contingencies. Developing a 'niche specialisation', in which particularly high standards are aspired to in one area, tends to make for national irrelevance in all others. Moreover, a rehearsed capacity to operate with other navies and other services is the obvious way of making up for individual imbalances.

Navies seeking to preserve a reasonable spread of capacities often resort to the device of forming small task groups which may be defined as 'a group of naval and air units optimally suited to the full range of tasks associated with an operational mission'. These have the incidental benefit of being useful building blocks in the construction of multinational coalitions. This has certainly been the approach of the Royal Canadian Navy, which is a medium navy in that it 'invariably participates with responsibility and effectiveness in world events within a partnership of like-minded states'. Canada has made much of the task group approach over the years. When budgetary constraints meant that Canada's one task group was not available, the assumption was that someone else would fill the gap in the coalition. Task groups seem to offer small and medium navies the capacity to maintain a spread of capabilities, opportunities for independent command and sustainment, the ability to operate with others and the potential to provide their governments with a wider range of options than would otherwise have been available to them.¹³

While the focus of this chapter has been on the *military* functions of navies, it is worth making the point that 'balance' also relates to the capacity of navies to operate as, or with, coastguard forces in the constabulary functions that will be considered in Chapter 10. This kind of balance makes navies effective across the whole range of maritime requirement.

One of the most striking characteristics of the hierarchy of navy-types identified at the beginning of this chapter is the obvious one that the lower the position of a navy on the scale, the narrower the range of opportunities it offers. A first-rank navy can do everything to some extent, a rank 9 navy merely exists. The conclusion is unmistakable—the capacity to operate across as wide an operational spectrum as resources will allow is one of the most important constituents of naval effectiveness. Moreover, the capacity to enlist new technology effectively in the process is often indispensable to success.

4.4 NAVIES AND TECHNOLOGY: AN INTRODUCTION

Navies are material services; where generals command men, the old saying goes, admirals command ships. Certainly, the composition, functions and strategic importance of navies are heavily influenced by technological change. This section briefly introduces some of the current debates about the impact that present and contemplated technology may have on naval operations in the twenty-first century, in three main areas:

- platforms;
- systems, weapons and sensors;
- information.

What general trends are discernible? Will they reduce the importance of navies or increase it? How will they affect the performance of the major naval functions? More generally, does technology determine naval roles, or is it the other way about? These are obviously huge issues. This chapter makes no pretensions to answer these questions, but aims merely to explore them. Many will recur later in this book.

4.5 PLATFORMS

Future Surface Ships?

The ‘great ship’ has always been the supreme expression of naval power. In the days of sail it could take the form of the famous ‘Turtle Ship’ of the Korean Navy, Scotland’s *Great Michael*, England’s *Sovereign of the Seas* or Spain’s *Santissima Trinidad*. These were the ‘capital’ or most important ships of their time: expensive, individually powerful and therefore immensely prestigious. So much did they seem to determine the perceptions of others, that their fighting performance was always the subject of considerable interest and controversy. When wood gave way to iron, and sail to steam, and the modern ‘battleship’ appeared, this also applied.

The technology that made them so powerful and at the same time so expensive, also made them vulnerable, really for the first time, to other minor and apparently much less expensive types of naval power. Just as the great ships of the Spanish Armada had been disordered by the fear of ‘Antwerp Hellburners’ and English fireships, many in the nineteenth century believed that submarines, torpedo-boats and mines would undermine the whole idea of the capital ship. In the twentieth century, this tension was exemplified by the challenge that airpower was thought to raise not merely to the survival of the battleship in such epic encounters as the sinking of the *Prince of Wales* and *Repulse* by Japanese bombers and torpedo-aircraft in 1941, but also to the future strategic importance of seapower. This accounted for the corrosive and in the end mutually destructive relationship that sometimes arose between navies and air forces around the world, touched on in Section 3.7.

The argument continues, however. In the immediate aftermath of the Second World War, there were furious debates about the continued utility of the large surface ship, especially in the United States, the Soviet Union and Britain, in the face of developing airpower, the arrival of anti-ship missiles and, indeed, of nuclear weapons. Criticism was reinforced by the perception that large surface ships were not only excessively vulnerable but also very expensive. The Soviet leader Khrushchev famously described the aircraft carrier and indeed all large surface ships as ‘metal-eaters’ and ‘floating coffins’. The real criticism, though, was not that they were vulnerable (because all weapons systems are) but that they were so vulnerable that they could not do their job, or if they could, that their performance would not be worth the price that had to be paid. Despite all this, and despite its historical predilection for maritime forces based on aircraft and submarines,

the Soviet Navy came to invest very heavily in large surface ships such as the Kirov nuclear battlecruisers and its Kiev and Kuznestov-class carriers.

This was a tribute not to the negotiating skills of Admiral Sergei Gorshkov and his colleagues (although they were evidently considerable) as to the continued technological validity of the concept of the large surface warship—despite all the technological challenges that have been posed it. Around the world, indeed, there is a marked tendency for all classes of warships to get larger, more expensive and fewer in number. Smaller navies such as Singapore are turning their fast-attack craft (FACs) into corvettes or light frigates, and the tonnages of frigates and destroyers are generally going up. Corvettes are approaching the 1,200-ton mark, frigates sometimes exceed 3,000 tons, and both are likely to increase still further.¹⁴

Among the reasons for this are the fact that since steel is cheap and air is free, larger size does not necessarily mean a huge increase in relative expense; moreover greater size allows for greater resilience (this could be particularly important for forces that might have to ‘take the first shot’ for political reasons), greatly enhanced means of offence and defence at any one time (both in variety and in depth) and, provided that ship architecture has been kept open, considerable scope for development through the ship’s life. Large multipurpose ships allow the commander greater flexibility across the whole range of operational activity involved in high- or low-intensity conflict and also increase the range of facilities that can be offered in peace support and humanitarian operations. As far as surface combatants are concerned, big is increasingly beautiful.

Against this trend, however, the American ‘Streetfighter’ concept is based on a return to the Jeune Ecole notion that the naval power represented by ‘the fleet’ should be disaggregated amongst a much larger number of individually smaller units but, this time, to be networked together so that they can act as a cohesive whole. One of the principal incentives for this proposal is the sense that large ships have become prohibitively vulnerable in littoral and narrow waters, especially to FACs and small diesel submarines.¹⁵

But with this possible qualification, there seems little reason as yet to foresee a significant reduction in the future importance of the major surface unit. All the same, the very concept of the surface combatant is subject to a variety of technological changes.

- The success of HMAS *Fervis Bay* in the East Timor operation has reinforced a growth of interest in unconventional hull forms (SWATH (small waterplane, twin-hull) ships), air cushion vehicles, and trimarans such as the British *Triton*.¹⁶
- There is increasing stress on ship ‘stealth’ and survivability. In a littoral environment, the increased range of its weapons and sensors reduces ship vulnerability to attack from the shore. The ship itself moreover is conceived of as a distributed system of systems, so that damage in one area need not necessarily lead to a breakdown in the whole.¹⁷
- Electric drive of the sort being considered in the US DDX programme may well also lead to a much more powerful weapons load per displacement ton over the next decade or two.¹⁸
- There is continuing interest in modularised systems which can be swapped around existing hulls as occasion demands. The Danish STANFLEX approach has perhaps taken this furthest. By this means, HDMS *Svaerdfisken*, built in 1991, operated initially as a surveillance unit, converted into an anti-submarine warfare (ASW) unit,

and then from 1998 became a minehunter. Moreover, since it allowed 16 vessels to do the work of 22 (of three different types), this approach is very cost-effective.¹⁹

- Such changes make reduced manning possible. Britain's Type-23 Duke frigate class with its modest crew of 180 was considered a major advance, but hardly compares with the 95 anticipated for the original DD 21 concept. Reducing manpower costs like this can be a major saving.

The variety of possible developments facing the surface ship do not suggest it to be an obsolescent species.

Future submarines?

'It's astounding to me, *perfectly astounding*, how the very best amongst us absolutely fail to realise the vast impending revolution in naval warfare and naval strategy that the submarine will accomplish!'

Admiral Sir Jacky Fisher, 20 April 1904²⁰

Curiously, this is a much less controversial area, for few deny the major role that submarines are likely to play in future operations, at and from the sea. Traditionally submarines have operated alone, relying on individual stealth for both their protection and operational effectiveness. Sea denial and the attack on trade has tended to be their main focus, although from their inception they have been used for a much wider range of functions than this. As early as the Gallipoli campaign of 1915, for example, British submarines penetrated the Sea of Marmora, attacked Turkish shipping in the normal way, but also landed small parties ashore and shelled railway lines and other targets inland.

From the 1920s, there have been continual aspirations to integrate submarines with the fleet, but communications problems (or, in modern jargon, 'lack of connectivity') led to the effective abandonment of this idea. The appearance of German U-boat packs in the Atlantic campaign of the Second World War revived the idea of individual submarines operating in concert with other units, and this notion has been steadily gaining ground since that time. Improved communications allow closer operational (though not necessarily geographic) integration of submarines with surface and air units. Moreover, the range and power of submarine-based weapons and sensors has increased their potential utility.

For all these reasons, the range of submarine activity has widened appreciably since the Second World War. During the Cold War, antisubmarine warfare tended to become the major preoccupation of both sides' submarine forces, although both also developed submarines as the most survivable means of operating their strategic nuclear deterrents. Since then, better communications mean that submarines can now be used more easily for close submarine escort (for example, of carrier battle groups), for intelligence, surveillance and reconnaissance missions, for the support of special forces and for shore attack by means of cruise missiles. Their capacity to approach an enemy shore without being detected facilitates the delivery/extraction of special forces, while the shorter flight time of cruise missiles fired just offshore speeds up the target-identification-and-attack

cycle. Not surprisingly, more navies around the world are acquiring submarines for all these reasons.²¹

The Chief of the South African Navy recently summed up the advantages of the submarine for smaller navies like this:

Submarines and corvettes are two sides of the same coin, performing complementary tasks as a deterrent and defensive measure...Submarines make small navies credible and allow us to keep our force relatively unsophisticated. If I were to lose my submarine capability, I would be looking at a complete redesign of the force...²²

Mostly, these submarines are relatively small coastal diesel-powered submarines (SSKs) of the German Type-209 variety. Some nations, North Korea being the most noted example, have a particular interest in very small or midget diesel submarines useful for local inshore operations. As the recent decisions of the French and British to move out of SSKs and the Indian policy to acquire nuclear-powered submarines (SSNs) all show, larger navies are evidently attracted by the 'seven deadly virtues' to be derived from nuclear propulsion: namely, flexibility, mobility, stealth, endurance, reach, autonomy and punch. Canadian experience suggests these attributes are very difficult for smaller navies to acquire, for a mixture of resource and geographic reasons.²³

Submarines, too, may be subject to significant technological change. There is, for example, a revival of interest (especially in Sweden, Germany and France) in the idea and potential of the air independent propulsion submarine which by reducing the need to 'snort' (or take in oxygen from the atmosphere) in some ways provides the SSK with some of the stealth advantages of the SSN. Finally, electric drive would confer the same advantages to submarines as it would to surface ships.

Submarines none the less face considerable technological and operational challenges as well as opportunities. The fact that they need to carry virtually all their machinery inside the hull, rather than bolted on the outside, severely reduces space and means there is room for far less weaponry than can be carried by a surface ship of equivalent tonnage. Making submarines bigger in order to get round this is expensive and may increase vulnerability, especially in the shallow seas where they are increasingly expected to operate. Although some systems can now be carried on the outside of the hull, the basic problem remains—at the moment it seems fundamental to the very nature of the submarine.

Moreover, anti-submarine sensors and weapons are also advancing rapidly and so there is continual pressure to increase the stealthiness of submarines (for example, by developing optronic masts). The fact that they are expensive to develop and maintain accounts for the fact that the world figure of submarines deployed has actually reduced since the end of the Cold War. Affordability is a major concern. Moreover, the failure of Argentina's Type-209 submarines to launch a successful attack on the British Task Force in the Falklands campaign shows how very demanding the sustained operation of modern submarines can be.

Aircraft and Aircraft Carriers

One of the most significant changes in the composition of the major navies of the twentieth century was the battleship's replacement by the aircraft carrier as the capital ship. This did not in any way diminish the strategic importance of navies, but it did greatly affect the way in which the struggle for sea control was conducted. Aircraft carriers became essential for the protection of the fleet against land-based air attack and, through their developing roles in independent strike and in support of amphibious operations, provided a means by which increased military power could be brought to bear on the shore. The Pacific campaign of 1944–45 was a triumphant vindication of the aircraft carrier as the new capital ship.

However, the aircraft carrier has been subjected to many of the same criticisms of the sort levelled against all large surface ships—that they are expensive and excessively vulnerable to air and submarine attack. The caution with which India deployed the *Vikrant* in the 1971 Indo-Pakistan War and with which both sides employed their carriers in the 1982 Falklands campaign seems to illustrate this. Costs, again, can be very considerable with a Nimitz class requiring some \$5 billion and France's new *Charles de Gaulle* not far behind it at \$3.4 billion. Despite such concerns, however, more navies seem to be acquiring carriers/air-capable ships of one sort or another.

Partly, this is through confidence that air and subsurface threats to the carrier can be contained. Carriers have all the advantages of large ships both in resilience and in the capacity to mount effective defensive weaponry and sensors. Moreover, unlike land air-bases, they are mobile. Typically, carriers will have their own escorts, which together form a battle group with a balanced range of capabilities against all manner of threats. Thus, when the *Charles de Gaulle* set out for the Afghanistan campaign, it was accompanied by one support ship (*La Meuse*), an attack submarine (the SSN *Rubis*), an air-defence frigate (*Fean Bart*) and two general purpose frigates (*La Motte Piquet* and *Fean de Vienne*). This practice complicates costings of course; on the one hand, such escorts ought to be included in the total package cost—but on the other they have other independent roles to fulfil as well. With the end of the Cold War, the escort component of US Navy carrier battle groups is reducing from about 12 units to around half that—and this will certainly reduce production and operating costs quite significantly.²⁴

The effectiveness of the carrier in the face of a variety of air and subsurface threats is a function of its own intrinsic defensive and offensive capabilities and of the extent to which it can delegate anti-air and antisubmarine defence to its escorts. The carrier battle group, in fact, needs to be regarded as a system capable of providing layered defence for itself and, in British words: 'a floating airfield able to project and deliver decisive joint air power wherever and whenever required by UK defence policy'.²⁵

Costs can also be reduced by a whole variety of adulteration measures. Currently, no one but the US Navy can realistically aspire to first-class fleet carriers of the Nimitz type—and many Americans wonder whether they can either. Hence the interest in cheaper V-STOL carriers like Spain's *Príncipe de Asturias* or Thailand's *Chakri Nareubet*, whose relative cost was about \$0.29 billion, or the British LPH *HMS Ocean*, which, being based on a commercial hull, cost little more than a frigate but has been able to perform many of the functions of a carrier to the necessary extent. More modestly, the

provision of helicopters on frigates and destroyers has enormously increased the offensive and defensive capacities of surface warships.

The real point, though, is that costs of performing functions have to be compared either with the costs of *not* performing the function or with those of other ways of doing so. For instance, some have advocated more extensive use of sea-launched missiles or long-range naval artillery as an alternative to expensive carriers. This was the thinking behind the US so-called 'arsenal ship' and led indirectly to the concept of the DD-21 land-attack destroyer. As it turned out, the arsenal ship was cancelled because the US Navy concluded that carriers in fact offered a better deal in the cost-effectiveness and variety of their means of attack. Nimitz carriers carry a payload equivalent to 4,000 cruise missiles, for example.

Land-based aircraft may be an alternative. The relative value of sea- and land-based air is complex, and when they are owned by different and competing services, controversial. On the one hand, land-based air can deliver the same or more powerful payloads rather more cost-effectively, and there are levels and types of air attack for which carrier aircraft are simply unsuitable. The massed carrier air strike on Tokyo in January 1945 organised by Admiral Halsey, for example, is generally regarded as a failure. A B-29 Superfortress of the time could carry up to ten times the bombload of each carrier aircraft, and hundreds of them could attack every night.²⁶

On the other hand, land-based airpower may prove critically dependent on the geographic or political availability of bases from which it operates. For NATO's Operation Safeguard in June 1992, for instance, carrier aircraft were available in the Adriatic within ten days of the decision to deploy forces, whereas it took nearly three months for NATO Jaguar air bases to become operational in Italy. Furthermore, carrier aircraft could sometimes conduct operations when weather conditions grounded the Jaguars. Fixed land bases may become excessively vulnerable to local attack. Some observers conclude, moreover, that 'base access' is likely to prove an increasing problem in the future.²⁷

Another angle on the whole question is the survivability of the manned aircraft itself as a future weapons platform. Some argue that the current JSF programme may be the last exercise in manned sea-based fixed-wing aircraft for such reasons as these:

- During the 1990s, aircraft costs rose at a rate of about 7 per cent per year, compared with 2–3 per cent for hulls.²⁸
- Sensitivity to loss when operating against unsuppressed air defences such as in the Kosovo campaign may limit operational effectiveness.
- The potential of unmanned aerial vehicles (UAVs) such as Predator and Global Hawk became clear in the Afghanistan operation. UAVs will surely develop attack potential and greater operational sustainability too.
- Improved IT will reduce the need for a human being in the cockpit of an attack aircraft to (re)programme the weapon after departure and before delivery.

Whatever the long-term future for manned aircraft, in the short-term future aircraft will be expected to have a long service life (perhaps 25 years) and so must be capable of significant development and improvement. Large aircraft, like large ships, are probably better placed to cope and evolve throughout their careers.

Many of these arguments apply to ship-borne helicopters too. Because they have enormously increased the defensive and offensive power of the surface ship, helicopters are proving increasingly attractive to the world's navies. They also provide smaller navies with many of the advantages of organic airpower but at more affordable prices. They are developing a huge range of tasks, but at the moment their main focus is on anti-submarine and anti-surface warfare.²⁹

Lastly, there is land-based airpower for wide-area surveillance, intelligence gathering and the attack of hostile air, surface and subsurface units. Historically, the main issue here has been who controls these aircraft, the navy or the air force. On the whole, experience suggests that the natural imperatives of metropolitan air forces will tend to lead to the comparative neglect of the special requirements of the maritime campaign, unless interservice arrangements are specifically designed to avoid it. In such circumstances, a naval preference for control of all aspects of maritime airpower is certainly understandable. The best solution, however, would be one whereby it did not matter who ran maritime airpower.

4.6 SYSTEMS, WEAPONS AND SENSORS

Many would argue that platforms will be less and less the real issue when it comes to defining the leading characteristics of maritime operations. Instead, the focus should be on systems, weapons and sensors. The Danish STANFLEX concept, discussed earlier, is significant in that it divorces the platform from the systems, but these determine its role and nature.

The weapons themselves can be grouped by function. Those connected with the littoral are likely to be particularly important. Mines (even old ones), for example, pose a real problem for naval forces engaged in expeditionary operations. Something of a race is developing between the increasing intelligence of mines on the one hand and the effectiveness of mine counter-measures (MCM) on the other. Current MCM approaches include research into mine reconnaissance using infra-red sensors and lasers and various breaching/clearing systems to destroy or neutralise mines in specific areas.

Certainly, navies in general and expeditionary forces in particular will have to pay increasing attention to this obvious means of denying access. Mines inflicted damage on the frigate USS *Samuel B. Roberts* (1988), the Aegis cruiser USS *Princeton* and the amphibious assault ship USS *Tripoli* during the Gulf War of 1991 that was out of all proportion to their cost, and certainly complicated US naval operations in the Gulf. Mine clearance after the Gulf War was also a major preoccupation.³⁰

Unsurprisingly, mine warfare has moved up the naval agenda. Some-thing like 50 navies deploy mines, 32 countries produce and 24 countries export them. MCM has just about kept track but remains a slow and painstaking business. Harking back to the point about systems, an emerging issue is whether MCM should be the responsibility of dedicated forces (always bound to be in the wrong place at the wrong time!) or more of a modularised package fitted into a general-purpose naval formation, for use as and when necessary.

A similar race is under way between means of defence on the one hand and torpedoes (plus other such underwater weapons)—another type of threat likely to be particularly

difficult to deal with in the congested, shallow waters of the littoral. Torpedoes are getting more intelligent, faster and more powerful. The Russian Shkval rocket torpedo which travels at 200 knots is a particular challenge. Among the many responses to such underwater threats are:

- The use of friendly submarines against the launching platform, especially hostile submarines. The increasing quietness of submarines has stimulated interest in active rather than passive sonars, and more exotic means of detection, such as bioluminescence, measuring water height and temperature differences, laser observation, and so on. However, there is little near-term prospect of the littoral being rendered transparent in the way that some visionaries were predicting several decades ago.³¹
- Aggressive reductions in the underwater signatures of surface ships.
- Increasing the effectiveness of decoy systems.
- Area detection, tracking and clearance systems such as the US Navy's 'Distant Thunder' programme.

Missiles directed against maritime platforms and aircraft are also becoming more intelligent, faster, longer-range and with heavier payloads. Their potential victims require increasingly sophisticated means of hard-and soft-kill defence designed to deal with the hostile platform before it can launch the missiles and/or to render them ineffective or shoot them down afterwards. Most agree that missiles are at their most dangerous when fired from modern aircraft; most also agree that maintaining air superiority is the best defence against them.

To the extent that they can be operated from small sea-going platforms, anti-ship missiles may seem to be closing the capability gap between small ships and large ones and between the types of navies that operate them. Concern that large ships might be prohibitively vulnerable against this kind of threat in narrow and congested waters, such as the Gulf, led to restrictions and concerns in their employment before and during the 1991 Gulf War. In the event, however, general air superiority allowed the Coalition maritime forces to use helicopters against the Iraqi Navy's fleet of fast-attack craft with devastating effect. So far, indeed, technological advance has always failed to substantiate the more extravagant claims of the exponents of 'flotilla defence'.

In 1982, during the Falklands campaign, HMS *Glamorgan* and other warships engaged in shore bombardment treated the Argentine Exocets known to be near Port Stanley with a level of respect that turned out to be well justified. In such operations the battlespace is compressed and the threat axis ill defined. Since then, moreover, long-range land-based antiship missiles have increased in effectiveness although they still depend on sophisticated means of targeting possessed by rather few countries.³²

The defence of maritime forces against shore-based cruise and ballistic missiles is none the less a growing contemporary preoccupation, especially in countries likely to be involved in the conduct of expeditionary operations. The prospect of situations in which the destruction of potentially hostile platforms capable of launching missile or torpedo attack against surface combatants might be thought politically unacceptable, and has led to increased interest in 'soft-kill' systems in which the weapon is either deceived or destroyed, while the launching platform is unharmed. These soft-kill systems might be 'the weapon of least regret' but remain a demanding undertaking in a cluttered and

politically sensitive environment. Hence the increasing interest in decoy systems, such as chaff, floating systems, jammers suspended beneath parawings, and so forth.

Land-attack missiles, especially in the shape of the Tomahawk missile, have proved an operational success through the 1990s. They are especially valuable in suppressing hostile air defences and means of command and control in the early stages of an expeditionary operation. The military and political effectiveness of unsupported Tomahawks in so-called 'drive-by shootings' is more problematic.

Stimulated, no doubt, by the growth of interest in all forms of land attack, an energetic debate has also developed over the future importance of modern naval gunfire support (NGS) in the missile age. Some years ago, it became very fashionable to argue that missiles with their increasing range and accuracy would render naval artillery obsolete. More recently, however, gunnery systems have staged a significant comeback, with an impressive potential for extreme accuracy, much extended range and sophisticated submunitions. Their capacity to engage in land attack, or the projection of maritime power from the sea as opposed to sea-control anti-submarine or anti-air warfare operations (ASW or AAW respectively) has become 'the great divide' in surface combatants.³³

4.7 AN INFORMATION REVOLUTION?

While this general survey of platforms, weapons and sensors suggests that change in all these areas is more likely to be gradually evolutionary than revolutionary, this is often specifically claimed *not* to be the case when it comes to developments in information technology (IT). Here, on the contrary, radical advance is widely expected as we plunge deeper into the twenty-first century.

Military experience in the Gulf War and the various Coalition operations in the former Yugoslavia much reinforced this proposition. In these conflicts, allied forces seemed able to deliver pin-point air and missile attacks on enemy targets that included both fixed and hardened sites and mobile forces. In the Kosovo campaign of 1999, in particular, enormous advances in computers and sensors enabled NATO to launch a variety of precision attacks through stealth aircraft, Tomahawk cruise missiles and joint direct attack munitions that were guided to their targets by the use of the satellite-based global positioning systems (GPSs)—and all at practically no cost to NATO in terms of lives lost. The whole process of locating targets, orchestrating and delivering the various means of attack was made possible only by enormous advances in computer-based information gathering and processing systems, such as joint surveillance attack radar systems (JSTARS).

The rate of exponential advance in computer power, which 'Moore's law'³⁴ claims has so far doubled every 18 months, makes revolutionary change in military operations virtually inevitable. It seems to have led to:

- An extraordinary increase in operational information about the adversary's forces and movements. Such knowledge will be available much faster (even in 'real' time) and more accurate. The fog of war may not have disappeared but it has certainly thinned. Future engagements seem likely to be more related to chess (where the position and value of all the pieces are known) than to poker (where they are not).

- Since knowledge is power, the more you know, the more you will win. Information superiority (or better 'situational awareness' than the adversary) has become even more important as a source of operational success. Defending your information and attacking the adversary's becomes a new dimension of war. Information superiority has been defined as 'The capability to collect, process and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same.'³⁵ This raises the prospect of information *as* warfare rather than information *in* warfare. Maybe we need a theory of information supremacy, just as we do one for air or sea supremacy?
- IT offers a means of linking friendly forces up much more systemically. Indeed these linkages tie the individual components of the system together so closely that it hardly makes sense to think of platforms (aircraft, ships, tanks) on their own. Instead they need to be thought of as part of a greater whole, or as a 'system of systems' in fact.
- IT makes this system of command, 'sensors' and 'shooters', much more responsive operationally. Commands will be faster and more precise. Reaction times between the identification of a target and the delivery of an attack will reduce from days (in the case of cruise missile attacks in 1991) to hours, and even minutes. This time reduction will come about partly in consequence of the faster data-processing resulting from enhanced computer power, and partly through the advent of more rapid means of attack (such as supersonic missiles). The commander will also have a greater variety of means of attack at his disposal.

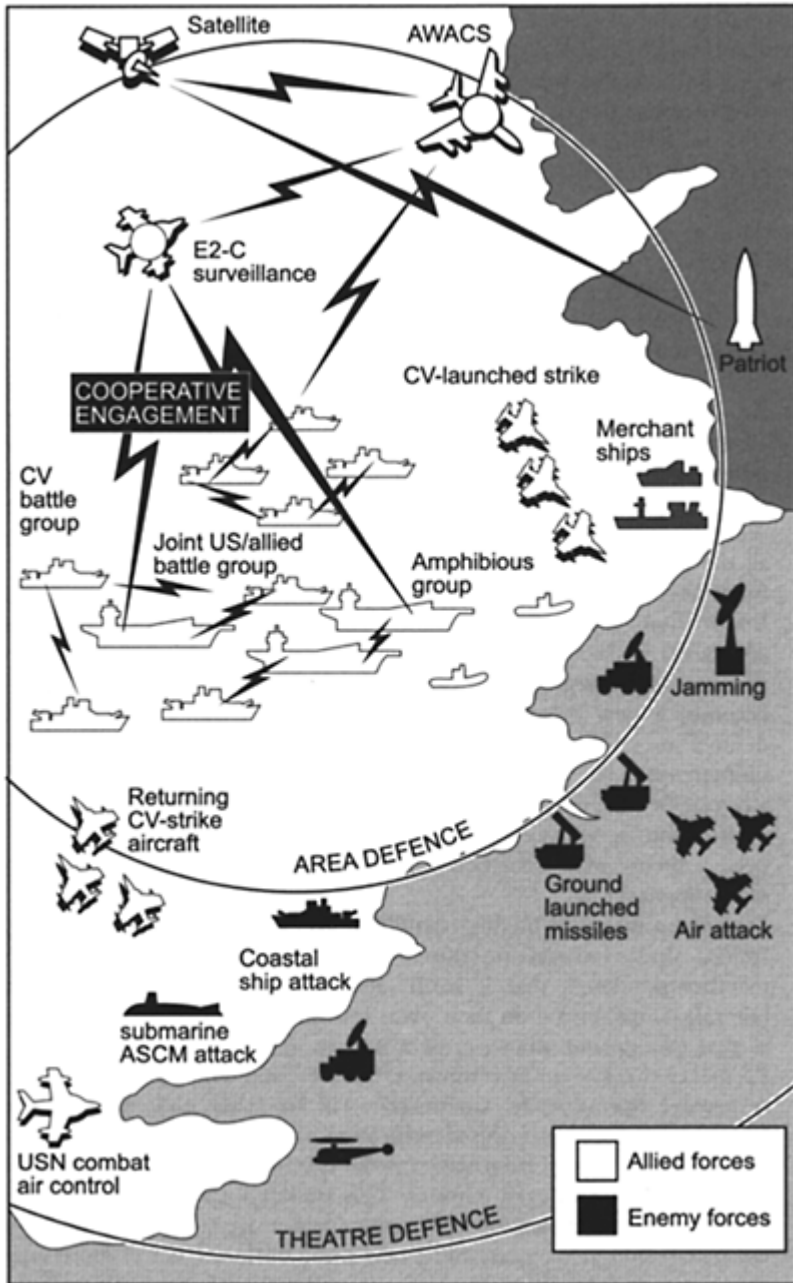


FIGURE 4.1 Network-Centric Warfare

- All of these systems of systems involved challenges to the traditional and independent initiative of the local commander since, to make sense of it all, final authority for the

disposition and use of the individual units had to be vested in some central authority, probably ashore. Increasingly it will be higher authority rather than the commander on the spot who has responsibility for locating the adversary, and responding to him.

The maritime equivalent of all this is the much-discussed concept of *network-centric warfare* (NCW), in which attention is focused on the combined action of a collective fleet, rather than its constituent platforms (be they ships, submarines or aircraft). The fleet, moreover, need not be physically concentrated; indeed the fact that the adversary may have access to comparable IT is an incentive for maritime platforms to be close to one another only in an electronic sense. Maritime power is now best 'distributed' and maritime effectiveness is to be seen more as a function of the capacity of the overall information system and the precision-guided munitions that it supports than it is of the fighting power of individual ships, aircraft or submarines. NCW will allow the commander to attack more targets, in less time over a greater space with fewer platforms.³⁶

The NCW concept is based on a data-link system in which the sensor (perhaps a UAV operated by one ship) gathers operational intelligence about the adversary's land, sea or air forces, and shares it round the fleet in real time. On the basis of this, the commander can use any platform, or combination of platforms, to launch his attack. This has become known as a *cooperative engagement capability*. This, together with longer and longer-range weaponry means that sea-based forces should be capable of launching much more effective attacks on land-based forces than before; but at the same time they may prove more open to attack from sophisticated forces on shore.

The maritime prophets of NCW generally emphasise that, for all this to work, there will need to be substantial changes to existing maritime organisations, habits of thought, procedures, doctrine. Much more attention will need to be paid to the mechanics (or rather the electronics) of cooperation with the other services, and indeed with allies. The traditional operational and tactical independence of the sea-based commander seems likely to atrophy.

For all these reasons, the information explosion associated with contemporary advances in the power of computers seems likely to have substantial implications for the future of seapower, and indeed is often said to have 'transformed' it.

The IT Revolution: Some Qualifications

However, certain caveats need to be entered straight away against this proposition.

How new?

NCW in fact is rather an ancient concept. A line of First World War battleships should really be understood as a single weapons system operating at the behest of its commander. The secret of success was to be able to co-ordinate its collective heavy artillery effectively. Britain's Admiral Madden explained it like this in 1920: 'Concentration of fire on one objective after another is the all important factor in a naval battle.' But the increasing range of naval guns and the particular lethality of 'plunging fire' meant that commanders could not achieve the concentration they wanted merely by positioning several ships against one, 'as was done for instance, in Nelson's time'.

Instead, it was a matter of fire control. Now the gunnery of the fleet had to be treated as a whole and often directed from the 'master ship' at targets invisible to the firing ship. For this system of systems to work properly, the commander needed accurate information on the exact position of the enemy during the battle.³⁷

He needed to be able to connect sensor to shooter and to ensure that appropriate information was passed around the fleet in a timely manner. In the days of sail, when the angle of approach was considered critical to the outcome of battle, the intimate relationship of tactics, signals and communications was the chief preoccupation of fleet commanders. As Brian Tunstall reminds us: 'Success in war depended on an admiral's ability to organise a body of ships into a disciplined fleet, capable of obeying his instructions and signals.'³⁸

At Jutland, a combination of lost aerials, vibration, gun and funnel smoke, defective message writing and poor visibility undermined signal efficiency at the very time that service culture centred on it. In consequence of the disappointment of Jutland, new Divisional tactics came into play by which emphasis was switched to some degree from the single line of battle to smaller, shifting and decentralised units of the fleet engaging in more independent manoeuvre. This increased the need for more diverse approaches to fire control—master ship, independent, sequence and massed firing.³⁹

The coastal defence system introduced by the Soviet Union in the 1920s is another example of NCW. Itself a refinement of a similar system put in place by the Germans to defend the coast of Flanders in 1914, it was a radio-linked system by which a shore-based commander could co-ordinate a large number of active small mosquito craft (coastal submarines, fast-attack craft) with land-based aircraft and artillery and passive sea defences (minefields) to repel an assault by superior naval forces. Norman Friedman shows us that the same kind of thinking lay behind Soviet efforts to coordinate their forces to deal with Western carrier and surface forces during the Cold War, and were indeed rehearsed by their large-scale OKEAN exercises of 1970 and 1975. There were similar Western efforts to maintain global surveillance and targeting particularly against Soviet submarines and land-based air forces, most famously through the SOSUS system.⁴⁰ In its way, the successful Coalition embargo operation against Iraq in the 1990s also rested on a global information system able to track merchant ship movements all over the world, and to provide the operational information needed for appropriate responses at every level.

The persistence of fog

Expecting IT to lift Clausewitz's 'fog of war' completely seems permanently unrealistic, for two basic reasons. First, in the Cold War examples given above, the speed, efficiency and security of space/satellite-based information flows and of the many links in the system was less than people wanted. Moreover, IT systems can sometimes fall apart of their own volition if the information they pass is wrong, or even if there is too much of it for commanders to handle. Information gridlock remains a real possibility. IT can, finally, complicate rather than facilitate the decision-making process, if too many cooks stick their fingers into the pie, simply because technology means they now can.

Second, there is a huge difference between having a lot of information about the enemy and understanding him. Underestimating the enemy, for example through cultural

unfamiliarity and/or lack of attention seems depressingly easy. The widespread Western failure to appreciate the efficiency of Japanese naval aviation in 1941 is but one example of this. The width of the cultural divide between watcher and watched is an important part of the explanation for this. Without these cultural insights, 'situational awareness' cannot possibly be total, however good the means of surveillance and communication.

The ability to profit from IT

The success of an IT-based, network-centric style of war depends on the efficiency with which information is used as a basis for appropriate operational responses. These depend not just on having information about the enemy's position and strength, but having the circumstances and weaponry to do something useful about it. Information is obviously crucial in war, but it is not all there is to it. The Vietnam War shows that technological superiority in IT does not necessarily lead to operational or strategic success. Despite the unprecedented access to operational information enjoyed by Coalition forces, the success of the so-called 'Scudhunt' in Desert Storm and later the ability to interfere with Serbian Army and police forces engaging in ethnic cleansing in Kosovo was in fact quite restricted.

Offensive and defensive counter-measures

Moreover, the more IT confers operational advantages on one side, the more it provides incentives for the other to seek tactical or technical counter-measures. These may be offensive, aimed at exploiting vulnerabilities in the system. Most obviously, the growing dependence on IT leads to vulnerability to some kind of 'electronic Pearl Harbor' in which the IT system itself becomes the object of attack. Commercial off-the-shelf (COTS) technology largely produced the IT revolution, but commercial IT may not prove to have the resilience expected of military equipment and so may be a continuing source of vulnerability. Since the military occupy only a relatively small part of the market, commercial firms may not have sufficient incentive to cater for the most extravagant of their needs.

Moreover, the ready availability of COTS IT means that weaker adversaries may well be able to narrow the gap by buying into the technology and adapting it to their own needs. Insurgents with cell-phones and satellite dishes are now commonplace.

Finally, the weaker adversary's responses may be 'asymmetric' in the sense of exploiting operational, political or even cultural factors in the situation in a way that compensates for their technological disadvantages in the manner discussed in Sections 8.3 and 8.5.

4.8 THE CHALLENGE OF TRANSFORMATIONAL TECHNOLOGY

The evident need for caution about the extent and impact of the IT revolution on seapower raises the issue of whether we are in fact in the midst of a general 'Revolution in Military Affairs' (RMA). The phrase has been borrowed from the old Soviet General Military Staff. General Nikolai Ogarkov, in the late 1970s and early 1980s, was amongst

the first to argue that future war was likely to be fought according to 'new physical principles' in accordance with the whole spectrum of emerging technology. His consequent recommendation that the Soviet Union invest even more heavily in new military technology played a significant part in his dismissal and, eventually, in the downfall of a communist system which was hard-pressed to cope with existing levels of defence expenditure, let alone the increases he was suggesting.

To many Americans the 1991 Gulf War, with its impressive integration of precision-guided weapons, C4I (command, control, communications, computers and information) and RSTA (reconnaissance, surveillance, targeting and acquisition) showed Ogarkov was, none the less, right. New developments seemed to be making previous styles of warfare obsolete. The Americans defined the RMA variously, but the following, produced by the US Department of Defense's Office of Net Assessment, has won wide acceptance:

A major change in the nature of warfare brought about by the innovative application of technologies which, combined with dramatic changes in military doctrine, and operational concepts, fundamentally alters the character and conduct of operations.⁴¹

Some naval writers have cleverly adapted the basic idea behind this concept and talk about a Revolution in Naval or Maritime Affairs, instead.⁴²

The sophistication in this formulation is worth noting, and is often overlooked. Plainly, it is not just a question of new technology *per se* (that is, just a Soviet-style 'military technological revolution'—MTR) but its innovative application that counts. It is not therefore simply a question of 'silver bullets', of merely inventing new technology—the real issue is about how to apply it. For it to work, military technology has to be accompanied by a host of doctrinal and organisational changes as well. Some go further still, pointing to the need for associated, wholesale political, social, economic and cultural changes if the 'military revolution' that affected Europe between, say, 1750 and 1850 is properly to be comprehended.⁴³ Here the ancient debate about the balance in war to be struck between unscientific, unquantifiable, human factors on the one hand, and hard 'scientific' quantifiable ones on the other, is very relevant.

There is also, frankly, a degree of 'weasel-wording' in this definition of the RMA: what do phrases like 'major change' or 'fundamentally alters' actually mean? Moreover, how does an RMA take place? Is it directed by someone (the military themselves? the state? commercial interests?) or does it just happen? Most important of all, this definition talks about change in the character and conduct of military operations *but not necessarily about change in its overall consequences*. The more, in fact, one looks at the concept of the RMA, the looser and the more susceptible to differing interpretation it seems to be.

This perhaps necessary ambiguity raises the danger of what is sometimes called 'techno-phoria'—the tendency to exaggerate the importance of technological superiority even if it can be achieved. The sixteenth-century Japanese strategist Miyamoto Musashi, who deduced his observations on warfare from the principles of swordplay, had some stern words for those who pin their faith on superior technology:

In this world it is said 'one inch gives the hand advantage' but these are the idle words of one who does not know strategy. It shows the inferior strategy of a weak spirit that men should be dependent on the length of their sword, fighting from a distance without the benefit of strategy.⁴⁴

From this, it is no very great jump to conclude that, unless strategic thinking keeps up with technological progress, the field may become dangerously dominated by technocrats. Navies evidently need to develop a strategy for dealing with technological transformation.

4.9 A STRATEGY FOR INNOVATION

There is, in fact, a widespread myth, even amongst otherwise respectable scholars, that the military are habitually against new technology, generally preferring to prepare for the last war rather than the next. This myth has two related but separate origins. First, it is often based on an uncritical acceptance of the remarks and memoirs of military radicals frustrated at the slow acceptance of their ideas. Second, and more importantly, it often proceeds from a simplistic idea of how innovation usually works. The image is of the instantaneous, totally transforming, revolution in military affairs. In 1921, General Billy Mitchell dropped bombs on a stationary, leaking, unmanned German warship (the *Ostfriesland*), which unsurprisingly sank. Were it not for the 'scelerotic conservatism' of battleship admirals, everything in naval warfare would immediately have been different.⁴⁵

But, of course, things were not like this. Around the world, admirals took a close interest in the potentialities of airpower and introduced it into their fleets to the extent and as fast as technology and resources would sensibly allow, and they had to do so usually incrementally over surprisingly long periods. The normal way in which new technology is incorporated into existing military structures is through a process of continual revolution rather than through some 'big bang' which the clever recognised and immediately responded to and the stupid did not.⁴⁶

The arrival of the Portuguese in the Indian Ocean at the end of the fifteenth century, however, would seem to be an example of an instantaneous RMA at least for the local fleets they encountered. Portuguese caravels were nailed and carried naval artillery. Local dhows were constructed from wood bound by coconut fibre; as a result they were more fragile, less able to cope with monsoon weather on the open ocean or to take significant gunnery to sea. Small Portuguese fleets were therefore able to stand off at a distance and batter their adversaries to pieces with complete impunity. The Portuguese Navy's competitive advantage lasted for perhaps one hundred years, until other European navies appeared on the scene. Some of the locals indeed were able to adopt and use Western naval technology. The navy of the Sultanate of Oman from the late seventeenth century developed a small Western-style navy which was instrumental in expelling the Portuguese from Muscat.⁴⁷ A little later, the famous Bombay Marine even built ships for the Royal Navy.

But discrete and discernible 'jumps' of the sort that occurred when the Portuguese arrived in the Indian Ocean are rare. Usually innovation is not so much a jump or revolution, more a process of evolutionary slither. For one example, the equally

transforming transition from wood to iron to steel, and from sail to steam, in the nineteenth century was for the best of reasons quite a halting process. Wooden merchant sailing ships continued to operate throughout the century because they were cheaper to build and operate and

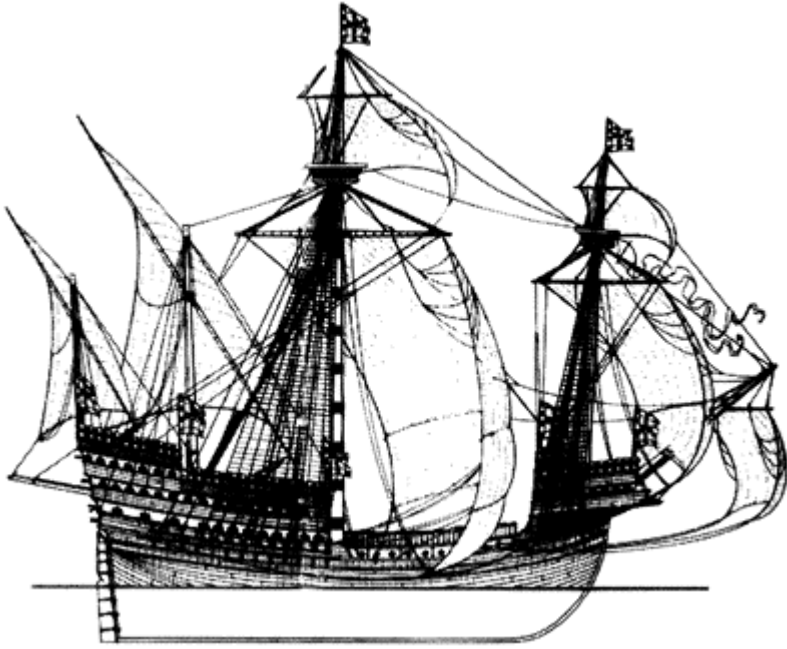


FIGURE 4.2 A Portuguese Caravel

(Source: Oman, Ministry of National Heritage and Culture)

often carried more cargo per ton than their more advanced competitors. Steamships were expensive to build and operate, but were faster and so especially suitable for the carriage of perishable or time-urgent cargoes like people or mail. Until high-pressure boilers and more efficient marine engines appeared, merchant ships were often hybrids—steamships which carried sail. People were inspired into innovation by the hope of competitive advantage, but were often disappointed. The appearance of the *SS Great Britain* in 1843, for example, seemed an RMA in itself with the biggest marine engine and propeller ever produced, but the commercial benefits the ship brought her owners fell short of expectation because performance was not as good as promised and because other countries and companies responded accordingly.

The same applied to the transformational impact of maritime airpower on naval warfare in the following century. Most obviously, it took a long time. The first aerial flight occurred in 1912, and even with the major impetus provided by two world wars, the battleship continued to have a useful career at least until 1945, although the emphasis had certainly shifted to the carrier by then. Moreover, most of the essential questions

involved in carrier design became clear with the appearance of HMS *Argus* in 1918 - but took another generation to answer.

The process of 'slither' does, however, appear to be accelerating at an exponential rate. Indeed, the sheer pace of technological change could well mean that the problem changes faster than the solution arrives; as a result, military customers will always be desperately trying to keep up.

Equally, some admirals and some navies are more receptive to change and are better able to innovate over a period than others. Many of the reasons for this may well be outside their control; the capacity to innovate technologically will, for example, tend to reflect the constituents of seapower discussed in the last chapter—the general level of technological sophistication in the country at large, the level of resource devoted to the navy, its strategic circumstances, and so forth. Technological change is not an independent variable, but instead is affected by things like the resources devoted to it, attitudes and strategic circumstances.

This last point is perhaps worth emphasising. A country's strategic circumstances often seem decisive for the manner in which its navy innovates technologically. As Andrew Krepenevich has sensibly remarked:

More than anything else, it is perceptions of future contingencies and likely enemies that determine whether and when there is full exploration of the advantages offered by the military revolution...⁴⁸

The development of maritime airpower in the interwar period demonstrates this well. For both the Japanese and the Americans, the vast distances involved in any Pacific campaign and the near-complete preoccupation that each navy had with the other both mandated the allocation of high priority to the development of maritime aviation. The absence of friendly land bases quite simply meant that both navies would need to take their airpower with them, or establish it quickly in conquered territory. It was different for the British who not only faced the Germans and Italians, as well as the Japanese, but were as likely to operate within the confined waters of the Mediterranean as they were the Indian and Pacific Oceans. Moreover, the British faced additional strategic challenges, particularly the threat of metropolitan air attack from the European main-land; dealing with this commanded an increasing share of scarce defence resources. All this does much to explain the relative decline of British maritime aviation during the interwar period when compared with the advances made by the Americans and the Japanese. Future contingencies determined attitudes towards transformational technology to a very considerable extent.

And so, of course, does the actual availability of the new technology. To some degree, attitudes are determined by technology, as well as the other way around. Maritime airpower was transformed at the very end of the interwar period by a host of aeronautical advances that came about quite independently of the interest of navies. By the mid-1920s, aircraft tended to be made of steel rather than wood, being fabric-, wood- or metal-covered. The changing shape of their wings led to big improvements in their aerodynamic qualities. The largest aircraft engines in 1918 developed about 250 horsepower while the typical military aero-engine of 1935 ranged from 500 to 900 horsepower. Engines were lighter in relation to their power output and much more reliable. Fuel injection, variable-

pitch propellers, flush riveting, retractable landing gear, were all coming into play by that time. All these technological developments made possible the huge advances in maritime airpower that occurred at the very end of the interwar period.⁴⁹

Ten Approaches that Have Worked

Although some of the major stimuli to innovation were coming from outside naval circles, many were, and are, intrinsic to navies themselves. Recent history suggests the following ten inter-related approaches to be amongst the characteristics of what should be part of a strategy for technological innovation.

Having educated people

An institutional culture in which the professional military education system (courses, staff training, reading material) helps develop naval personnel (both officers and ratings) interested in issues of innovation, skilled enough to analyse them effectively and ready to challenge defective ideas, irrespective of their origin. As a rule, an educated navy in which ideas are freely distributed and discussed, performs better.

Keeping in touch, technologically

Since technology seems most likely to be in a state of continual revolution, innovative navies are distinguished by their development and maintenance of close and productive links with industry, often directly involving scientists in their deliberations. This was particularly crucial in the rise of the German Navy at the beginning of the twentieth century and later in the success of the British campaign against the U-boat in the Second World War. The Royal Navy's enforced loss of contact with the otherwise impressive British aeronautical industry in the interwar period, greatly weakened British naval aviation and shows what happens when close touch is lost.⁵⁰

Admittedly, keeping in touch may be expensive and can lead to the creation of what has variously been called 'a fleet of samples' or, in Admiral Tirpitz's phrase a 'museum of experiments'. Navies in the late nineteenth century tended to accumulate everything going, producing a heterogeneous mixture of citadel ships, broadside ships and ships of varying speeds and endurance that were almost impossible to operate as a cohesive unit. To some degree this is inevitable in a period of rapid technological change. Better that, than falling so far behind that catching up in time becomes impossible.⁵¹

Technological innovation often takes place in response to a variety of private, civilian and commercial imperatives. In the nineteenth century, governments, and to a marked extent their military forces, were much more in command of technological and scientific progress than they now seem to be. This change is particularly marked with the arrival of the 'Info-RMA' discussed earlier, where so many of the advances in IT have come about in consequence of the demands of commerce. Tracking technology requires navies to stay closely alongside and responsive to civilian industry.

Maintaining options

In a situation of technological uncertainty, there is much to be said for a policy of gradualistic incrementalism that keeps as many options open as possible. From a recent study of British naval procurement in the first half of the twentieth century, Jon Sumida has concluded:

Even the most promising devices require years—if not decades—of improvement before their full potential can be assessed accurately and appropriate forms of application definitively established. During this period, other technical developments, either independently, or in combination with older *materiel* might offer an effective operational alternative to immature new technology.⁵²

US Naval experience with torpedo and anti-torpedo technology in the 1920s shows that navies that rush into new developments seem often to get their fingers burnt. The reason for this is quite simple and derives from the well-known ‘Learning S Curve’ in which a steep period of technological advance is followed by a flatter period of consolidation. Investing heavily in the early stages of development will produce equipment that is quickly rendered obsolete; better to wait until the dust has settled before plunging into large-scale procurement programmes. Just behind the leading edge is a good place to be.⁵³

Navies need a conscious strategy for investment in new platforms, sensors and weapons, and knowing where you are on the S-curve in the case of particular technologies is an important part of it. Excessive enthusiasm for new technology can be as damaging as excessive resistance to it. Both are examples of what the German military of the interwar period characterised as ‘Einseitigkeit’—one-sidedness, the inability to take the balanced view of new technology that is so indispensable for effective innovation.

Strong, sustained leadership

The success of such varied innovators as the US Navy’s Admiral William J. Moffett (Chief of the Bureau of Aeronautics 1921–33) and Admiral

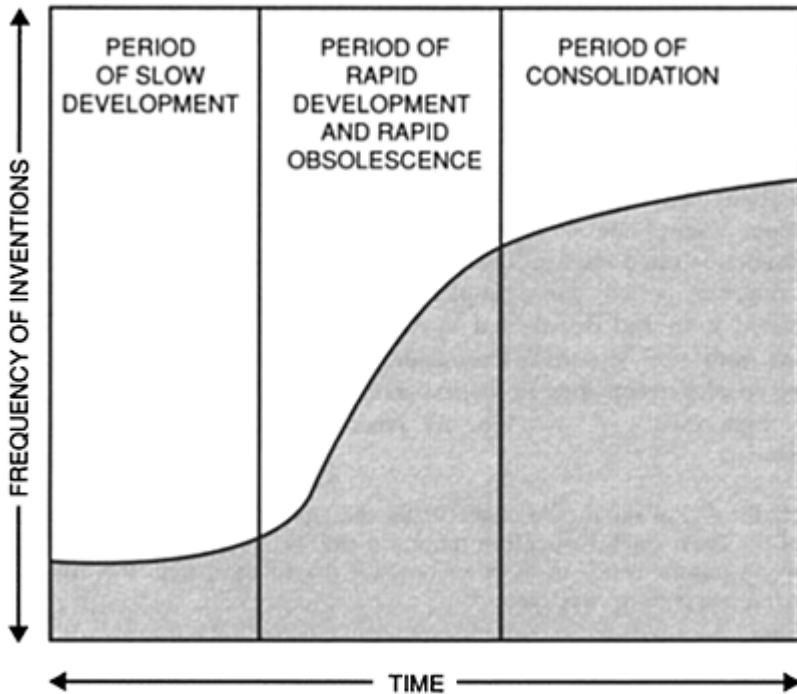


FIGURE 4.3 The S Curve

Hyman G. Rickover (responsible for the US Navy's nuclear propulsion throughout the Cold War), Japan's reforming Admiral Yamamoto Gomei, and, perhaps most outstandingly, the Soviet Navy's Commander-in-Chief from 1956 to 1985, Admiral Sergei Gorshkov, all attest to the value of a long-term vision of the navy's technological future, and the administrative authority to push it through. The more a navy's technological programme is chopped around by regime changes, the less successful it is likely to be. To cope, navies need a long-term institutional and cultural predisposition to adopt, adapt and exploit technological change pro-actively.⁵⁴

Adaptive institutions

The success of the Polaris procurement programme, in both the United States and Britain, shows the huge benefits to be derived from institutions adapting to accommodate new technology rather than the other way around. Famously, the Royal Navy's Vice-Admiral Sir Hugh Mackenzie was able to set up a unique, special-to-purpose organisation, the Polaris executive, which drove this crucial but highly complex programme through, despite political anxieties, widespread ignorance of the technological possibilities it presented, and bureaucratic resistance from within the institutions normally charged with submarine development.⁵⁵ Had those institutions been sufficiently adaptive, this would have been unnecessary.

The capacity to profit from experience

The ability to make effective use of the experience of others, and indeed to develop a corporate memory in the lessons of previous technological innovation is often crucial. The Japanese maritime airpower programme of the interwar period, for example, benefited enormously from the help extended it by the British and by the lessons provided from conflict in China from 1931 onwards. The result was a shift from the acquisition of other peoples' technology to the indigenous production of their own—and very high quality it was too. As one recent and authoritative study concludes:

By the end of the decade of the 1930s, the Japanese navy had acquired some of the finest combat aircraft in the world and was a leading participant in the world transformation of naval aircraft that moved them from the margins of naval power to its very centre.⁵⁶

Good inter-service relations?

Competition between the services, and indeed between different interest groups within the naval service seems to cut both ways as far as technological innovation is concerned. On the one hand, it can produce wasteful duplication, institutional resistance and dangerous gaps in provision. On the other, such tensions can sometimes be creative in sparking off a host of stimulating ideas. For example, some analysts of the Polaris programme in both the United States and the United Kingdom argue that naval officers rallied behind the project partly because success would be 'one in the eye for the Air Force'. However, British experience with maritime airpower through most of the twentieth century suggests that this kind of competition generally does much more harm than good and has helped determine the move towards more 'jointery' described in the last chapter. Because the functional differences between the services have become more blurred anyway, the habit of cooperation is likely to be steadily more important for effective innovation.

Keeping assumptions under review

Naval staffs clearly need to develop notions of how they will proceed in future conflicts. This process of concept formulation takes time and effort, and human beings being what they are, people may be reluctant to change their ideas as much as they should. Other than developing the proper attitude towards doctrine already discussed and making sure that there is a general spirit of enquiry, there is no easy answer to this problem.

One of the clearest needs here is *not* to think that any technological innovation is completely revolutionary, offering permanent, enduring and radical change in the overall nature of military operations. One of the reasons for this is because, as Clausewitz reminds us, war is a dynamic process between two living and responsive forces. Thus, in most cases the adversary will respond to some technical or tactical innovation either with counter-measures inspired by the same science that produced the threat or with parallel technical, tactical and even political developments of his own—or, most likely, with both.

Effective marketing

Innovative technology not only has to be invented: it needs to be paid for and applied. This often requires effective marketing amongst the press, domestic public opinion and amongst naval personnel themselves. To an extent this may require emphasising the future potentiality of a new weapon system rather than its present limitations. As we have already seen, transforming technology is often much more incremental in its effect than people realise. For instance, the Battle of Sinope in 1856, when Russia's Admiral Nakhimov overwhelmed a wooden Turkish/Egyptian fleet with modern shell guns, has often been portrayed as a turning point in naval history. And so it was—in some ways. However, Nakhimov took over six hours to have this effect; he vastly outnumbered and outgunned his adversary (he had six ships of the line amassing some 600 major guns, while the biggest ship in the opposing fleet was a humble frigate). With these odds, old-fashioned solid shot would have had precisely the same effect!⁵⁷

None the less, it was the impression that counted, rather than the reality. Hence Mitchell's bombing of the *Ostfriesland* in 1921—this was a military performance as theatre. The media may have played a crucial role here. Contemporary attitudes towards the appearance of revolutionary warships like the *Monitor* and the *Virginia* during the American Civil War were greatly influenced by the media 'hype' that accompanied them. The *Virginia*, for example, was represented as omnipotent, entirely new and wholly sinister: 'The water hisses and boils with indignation as, like some huge slimy reptile, she slowly emerges from her loathsome lair.'⁵⁸

While being properly mindful of the large gap between impression and performance that invariably attends new technology, successful innovators need political as well as technological skills if their proposals are to be accepted.

Coping with the unexpected

Things often do not turn out the way that innovators expect, and successful innovation requires continuous adaptation of even the most basic of their ideas. For instance, modern scholarship shows that the most famous naval transformation of all, the appearance of Admiral Jack Fisher's Dreadnought in 1906, was a good deal more complicated than is often realised. Fisher seems to have regarded it as no more than an experimental testbed, but instead it turned itself into a transforming event almost of its own volition. Arguably this even went to the extent of blowing the major innovator's real transforming intention (to introduce 'flotilla defence' as the mainstay of British naval policy in home waters) out of the water. If this argument is right, Fisher's own brainchild was indirectly responsible for the failure of his main expectations and desires. Innovative technology evidently can take on a life of its own, and successful navies need to be able to accommodate that fact.⁵⁹

4.10 NAVIES AND TECHNOLOGY: SUMMARY AND CONCLUSIONS

'Historically, good men with poor ships are better than poor men with good ships, which our own age, with its

rage for the last new thing in material improvement, has largely dropped out of memory.’⁶⁰

It would seem from all this that navies are likely to be challenged through the twenty-first century by the prospect of a continuous technological revolution, the dynamics of which will often not be under their control. But they need to develop a strategic approach towards this process that will help them pick their way through such uncertainties, because it has so great an impact on all aspects of their capacity to perform their tasks.

Technology affects all navies, great and small, but may pose them different problems. How it affects their capacity to operate with allied navies of different rank, for example, remains controversial. Observers impressed with IT developments tend to argue that with gateway technologies of various kinds, modern technology can link up the C4I surveillance and reconnaissance systems of different navies much more easily than was possible before. Sceptics are not so sure and tend to believe that IT widens rather than narrows the gap between the great, the medium and the small. Americans tend to predominate in the first group, their allies in the second. Since technology affects everyone (helping great navies that want to project military power ashore, small navies that might need to resist such efforts and medium navies trying to maintain as many options as they can), navies cannot safely opt out of the process.

But one thing does seem to be clear. Despite its advocates, and despite those who point to the analogy of pocket calculators and computers which have become much cheaper in real terms, the sensors, weapons, platforms and systems of modern navies, their personnel and all aspects of their infrastructure have become progressively more expensive. Over the past half century, the unit cost of most types of military equipment has risen between about 7 and 10 per cent per year.⁶¹ In consequence, since the financial resources available to navies are finite, most of the world’s navies have fewer platforms than they did, although each is a good deal more capable individually, and usually larger, than they were. This shrinkage has been particularly noticeable amongst the erstwhile antagonists of the Cold War era, and is much less marked in the Asia-Pacific and elsewhere. Against such a background the economic need to avoid mistakes in technological investment is considerable.

For all these reasons, navies need to take technology at least as seriously in the future as in fact they have in the past. They need, in short, to develop a strategy for technological innovation. But this does not mean simply having a ‘rage for the last new thing in material development’. Here, as elsewhere, in order to avoid ‘Einseitigkeit’ a sense of balance is necessary. Perhaps the most important aspect of this is the need to avoid being seduced by the excitements of ‘techno-babble’ into thinking that when it comes to understanding naval capability, technology is really the only thing that matters.⁶²

Chapter Five

Command of the Sea

‘ANTHONY: Pompey is strong at sea...No
Vessel can peep forth but ‘tis as soon
Taken as seen...

POMPEY:...I shall do well
The people love me, and the sea is mine.’

Shakespeare, *Anthony and Cleopatra*, 1/4 and II/1

5.1 EVOLUTION OF A TRADITIONAL CONCEPT

As Shakespeare shows, the notion of command of the sea is an ancient one, but, to paraphrase Corbett, it is one of those ringing phrases that dominates the imagination but confuses the intellect. It conjures up the spectacular imagery of naval battle, heroism and mastery that adorn the walls of naval establishments around the world. It seems to be what navies are all about.

In fact, most traditional maritime strategists are much more pragmatic about what command of the sea is and what it provides. Broadly, it is no more than a means to an end. Corbett put it like this:

It never has been and never can be, the end in itself. Yet, obvious as this is, it is constantly lost sight of in naval policy. We forget what really happened in the old wars: we blind ourselves by looking only on the dramatic moments of naval history; we come unconsciously to assume that the defeat of the enemy’s fleets solves all problems.¹

And, of course, it does not. The same point was also made by Admiral Colomb, when discussing the Anglo-Dutch Wars of the seventeenth century. ‘It is incomprehensible’, he wrote, ‘that the whole naval force of each side should have gathered against the other again and again and simply fought for the mastery [of the sea], unless something was to follow when it was gained.’ Both sides had enormous maritime interests to protect or expand and the ferociousness of their wars reflected, in true Clausewitzian style, the importance of the ends they served.²

In essence, the value of commanding the sea lay not in its physical conquest or possession—an idea which only makes sense in land warfare— but in the use to which commanding the sea could be put. If maritime strategy is about the use of the sea, then

commanding it means you can use it for your purposes and prevent the enemy from using it for his. Those uses depended on circumstances.

At one level, it could serve as the basis for the creation of a colonial empire, as it did the Portuguese in the sixteenth century and the Dutch and English thereafter. In the twentieth century, the Japanese followed suit, again illustrating what command of the sea could mean. As Richmond put it, Japan,

with an unopposed command of the sea owing to the absence of British sea forces, the disablement of the United States Fleet at Pearl Harbour, and the allied losses of Malaya and in the Java Sea, could move her military forces freely...against the British, Dutch and American possessions in the Pacific.

But, then, in a series of battles the Allies broke and destroyed much of the basis of Japanese seapower, wresting command of the sea away from the Imperial Japanese Navy. This transformed the situation. The Allies could now threaten Japan with three measures: invasion of the home islands, bombardment from the air and the sea of its factories and cities, and blockade, cutting off both those food supplies it could draw from the mainland and the fisheries round its coasts. 'With our sea power making possible the use of all our other resources', said Admiral Nimitz, 'we gave Japan the choice of surrender or slow but certain death.'

The advantages of command of the sea were conveniently summarised by Admiral Sir Cyprian Bridge like this:

It enables the nation which possess it to attack its foes where it pleases and where they seem most vulnerable. At the same time it gives its possessor security against serious counter-attacks, and affords to his maritime commerce the most efficient protection that can be devised. It is, in fact, the main object of naval warfare.⁴

Because these strategic advantages are so great, there is a natural tendency to use the phrase 'command of the sea' as though it were a synonym for maritime greatness, ruling the waves, or even seapower. As we saw in Section 2.4, Mahan himself got close to saying that.

5.2 LIMITS AND QUALIFICATIONS

This seems unwise, for a variety of reasons. First, it encourages the notion that command of the sea is an absolute rather than relative concept, and one which, moreover, suggests that it is unrealistic for smaller navies to have pretensions in this area. Some think of command as being of all the sea for all purposes. 'There is no such thing as partial or incomplete command of the sea', declared Clarke and Thursfield roundly in 1897. 'It is either absolute, or it does not exist.' Mahan has also been accused of thinking that 'Command of the sea...was an exclusive thing: it could not be shared, and was applicable to one nation at a time'.⁵

Mahan sometimes suffers from having written more than most people are prepared to read, but he often tried to make it clear that he believed that command of the sea, a phrase incidentally which he hardly used, was essentially a relative not an absolute thing. And so did most other maritime strategists. Corbett often used the useful phrase 'a working command', which makes the point exactly. Castex was clearest of all on the matter. 'The mastery of the sea', he argued, 'is not absolute but relative, incomplete and imperfect'.⁶

Amongst the relativities of command are:

Time

Command can be a matter of degree, in terms of time. Command of the seas could often prove a fleeting thing, no sooner won than gone. Mahan declared, 'It is evident that the sea in the past has not been so exclusively dominated, even by Great Britain at her greatest, that a contest for control may not take the form of a succession of campaigns marked by ups and downs'.⁷ Sometimes, though, it could last 'for the duration'—as it did for the British and the French in the Crimean War of 1853–56.

Place

Command is invariably relative in geographic terms. It can be local, or general, or somewhere between the two. 'The absence of overall command', wrote Brodie, 'is especially likely to be the rule where the areas in dispute are vast and the bases of the opposing forces widely removed from each other. Such a situation is almost inevitable in the broad reaches of the Pacific'.⁸ That ocean was so huge no one could expect to be in command of all of it at one time until the very end of the conflict. The French Navy is often said to have practised a strategy aimed at combining the relativities of time and place in a particularly ingenious way. They hoped to lure away the British fleet for long enough to sneak an invasion over to England. In 1804 Napoleon wrote, 'Let us be masters of the Straits for six hours and we shall be masters of the World'. In such circumstances, command of the sea that was limited like this might be all that was necessary.

Extent of use

Command of the sea may facilitate the use of the sea, and/or the denial of that use to the adversary, *only to a degree*. Mahan was quite clear that 'however great the inequality of naval strength' the weaker party always had at least some opportunities to sail about the sea, 'make harassing descents upon unprotected points...enter blockaded harbours'. Command could relate merely to the conduct of operations within particular dimensions of maritime war: air, surface and subsurface. Very possibly a different balance of command might apply in one dimension than in another. The German Navy of both world wars illustrates this point rather well, since it was so much more successful in contesting command by its underwater activities than it was on the surface. Similarly, command might apply mainly to particular types of ship and the kind of tasks they performed. During the First World War, Admiral Bacon observed, 'even in the North Sea we had command of the sea only so far as battleships were concerned: the enemy still had

the power of using battle cruisers, fleet light cruisers, destroyers and submarines offensively'. As a result, and even though the German battlefleet was successfully bottled up during the First World War, the British still needed directly to defend their shipping and coastline.⁹

Strategic consequence

Command of the sea could be limited in strategic effect, or sufficiently outflanked through superiority in the other dimensions of war. During the 1940 Norway campaign, the northwards push of German land forces and the spreading influence of their air force drove the British into the sea and harried them even there, the surface supremacy of the Royal Navy notwithstanding. As we saw in Sections 2.7 and 3.7, the ability to command the sea may often depend on supremacy on land, rather than the other way about.

Necessity

The Norwegian campaign also reveals a degree of doubt about the extent to which command of the sea is a prerequisite for significant action at sea. As Admiral Raeder openly admitted, the German invasion was hazardous in the extreme and 'contrary to all principles in the theory of naval warfare', since it would be carried out in the teeth of British naval supremacy.¹⁰ The admiral pinned his faith on the achievement of complete surprise and on being able to counter any subsequent Allied reaction with German air power. Although the plan worked in the end, according to most traditional strategists, it should not have done! But, as the Allied disaster at Dieppe showed in 1942, even a brief amphibious raid can go badly wrong if it turns out that the raiders have less command than they need.¹¹

Mahan was clear that 'As a rule a major operation of war across sea should not be attempted unless naval superiority for an adequate period is probable.'¹² But it is worth emphasising that Mahan is not talking here of absolute command, but of 'working' command, possibly limited in time, space and extent. The point was reinforced by Corbett. The notion 'that you cannot move a battalion overseas, until you have entirely overthrown your enemy's fleet', he declared was a ridiculous one which 'deserves gibbeting', but the more ambitious the amphibious enterprise, the more command you needed.

The link between command and the attack or defence of shipping is even more complex than it is with the conduct of amphibious operations. Two points need to be made at this stage. First, as we shall see in Section 7.8 and 7.9, command is not merely a prerequisite to, but actually an intrinsic *part* of a campaign to attack/defend maritime communications.

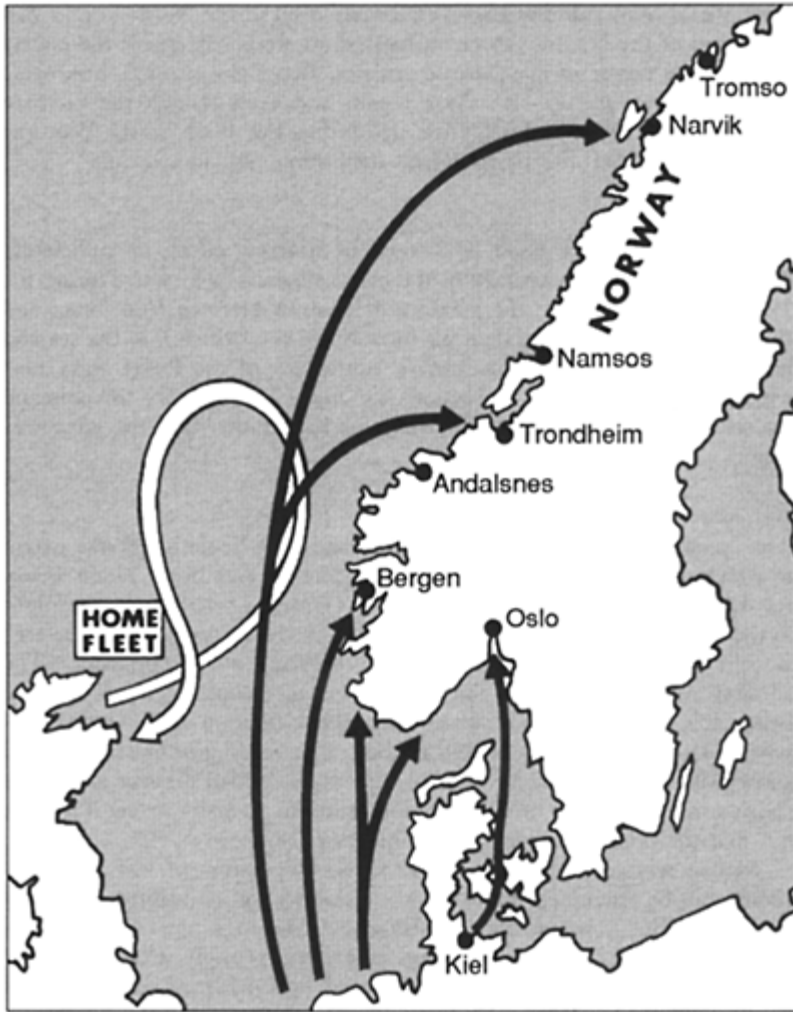


FIGURE 5.1 The Norway Campaign, 1940

Second, the possible tension between the requirements of command on the one hand and of the attack/defence of maritime communications on the other is a particularly striking example of the way in which forces and operational priorities designed to contest command could differ quite radically from those intended to exercise it. As Admiral Colomb pointed out, ‘the forces proper for gaining command of the sea might be quite useless for protecting commerce’.¹³

Corbett ramméd the point home: ‘No principle of naval warfare’, he said, ‘is so much ignored in ordinary discussion, as that you cannot command the sea with a battlefleet.’ The battlefleet could never be numerous or ubiquitous enough to exercise command and

control the lines of passage: that was the job of 'the flotilla and its supporting cruisers and intermediate ships'. By destroying or neutralising its opposite number, the battlefleet won the command which only these other naval forces could actually exercise.¹⁴ With the benefit of the experience of the First World War, Commander Russell Grenfell made all clear by labelling the small ships exercising command, patrolling focal and terminal trade areas, escorting convoys and military transports, patrolling to intercept enemy commerce, and so forth, the 'control fleet'. The gaining and maintenance of command was the work of the 'battlefleet', under whose cover the control fleet operated. The point of emphasising the difference between these two functions was that they had different requirements in warships, tactical procedure and so on. Only with a properly balanced fleet could a navy hope to perform both functions.¹⁵

For all these reasons, even 'permanent and general' command of the sea could never be absolute in practice. The adversary would always have at least some maritime possibilities, but perhaps not of the kind that would necessarily have a substantial impact on the outcome of the war.

But there is also a second set of reasons why the natural tendency to associate 'command of the sea' with maritime greatness can be misleading: namely, that it obscures the fact that the concept is as relevant to small navies as it is to big ones. Small navies have often struggled amongst themselves for command of the sea, and large ones have been known to use flotillas of small ships to do the same on rivers, lakes, inland waters and coastal seas.

- If the famous encounter between the Northerner's USS *Monitor* and the Confederate CSS *Virginia* during the American Civil War was not a battle for sea control, it is hard to imagine what is.
- And so for that matter were the small ship struggles between the British and the Americans in the lakes in both the War of Independence and the War of 1812.
- The October 1879 battle north of Antofagasta between the tiny navies of Peru and Chile in the War of the Pacific served the same purpose. 'The capture of the most important enemy unit resulted in Chile's supremacy of the sea. Having control of the sea, the Fleet then began the transport of the expeditionary Army with an amphibious operation into the heart of enemy territory.'¹⁶
- Likewise, the struggles of the Israeli, Syrian and Egyptian Navies in 1967 and 1973, when Komar and Sa'ar FACs armed with anti-ship missiles performed exactly the same functions as the battlefleets of the First World War.¹⁷

5.3 PURSUING COMMAND IN MODERATION

For all these reasons, Corbett warned his readers against the idea of reducing maritime strategy to the simple bull-headed pursuit of absolute command of the sea at all costs. While in pure logic it might make sense for a navy first to concentrate in order by battle or blockade to achieve command before dispersing in order to exercise it, things are rarely so neat and tidy. 'Extraneous necessities intrude themselves which make it inevitable that operations for exercising command should accompany as well as follow operations for securing command.'¹⁸ It was a 'difficult and disputed' matter, declared Mahan, whether in combined operations 'the fleet and the convoy should sail together, or

the convoy held till control of the sea is decided'. It was unwise to make 'sweeping dogmatic assertions': far better to weigh up the particulars of the individual case. How much risk was permissible: how near and mighty the enemy fleet: how important the objective? Any decision on precedence must depend on such things as these. Three-quarters of a century later, the Soviet Navy's Admiral Gorshkov agreed:

Combat actions the aim of which is to secure dominance at sea in selected areas or in particular directions, may either precede the solution by the fleet of the main tasks or be conducted simultaneously.¹⁹

Most of the major fleet encounters actions of the Second World War, Gorshkov pointed out, were associated with, and a part of, some larger enterprise against sea communications or the enemy's coastline: thus, the Battle of Cape Matapan, the sinking of the *Bismarck*, the Battles of the Coral Sea, Midway, the Philippine Sea, Leyte Gulf and so on. He also believed this to be a growing trend.

The point of all this, of course, is that it poses navies with a fundamental dilemma. How should they split their resources and their efforts between the demands of the battlefleet and the control fleet? It used to be said that the Royal Navy concentrated far more on the former than the latter in the period between the First and Second World Wars because of its fixation on the decisive battle (and on avoiding another Jutland), thereby being caught at a dangerous disadvantage by the German U-boat offensive of 1940–43. Nowadays this charge is generally dismissed as simplistic, but the strategic choice it identifies remains valid for all that.²⁰

The same dilemma can be seen at the tactical and operational levels of war too. Should a convoy escort leave its station, where it directly protects a group of merchantmen, to try to destroy a threatening submarine? Was not Admiral Nagumo's fatal mistake at the Battle of Midway in 1942 his basic uncertainty as to whether he was supposed to be attacking the island with his aircraft or dealing with any American carriers that might be in the area? The pursuit of such divided aims seems to be a violation of the master principle of war (Section 2.2) but circumstances may make it hard to avoid.

Since the notion of Command of the Sea is evidently such a minefield of potential misconception and general hazard, perhaps we should not use such a grandiose term? The alternatives seem to have their own imprecisions, however, and mean much the same anyway. Accordingly, as Bernard Brodie sensibly concluded:

So long as one bears in mind that 'command' is always relative and means simply a marked ascendancy in the contest for control, one might as well continue to use a phrase which has so ancient and honourable a tradition.²¹

5.4 COMMAND OF THE SEA YIELDS TO SEA CONTROL

A few years later, during the Cold War, however, many analysts concluded that recent developments were making it more difficult to secure high degrees of command of the sea. Admiral Gorshkov, for example, argued that, 'It will be seen that the period of keeping the dominance gained at sea tends to shorten and the struggle for gaining it

becomes even tougher.²² This partly reflected perceptions of the impact of the new technology on surface naval power. Missiles, torpedoes, mines, land-based aircraft, even in the hands of non-industrial states, seemed likely to make it noticeably more hazardous for blue-water navies to pass through, or operate in, sea areas within reach of land. In peacetime, it seemed, there were growing politicolegal restrictions on the freedom of the maritime powers to use the sea as they wished.

For such reasons as these, many modern maritime strategists were increasingly uncomfortable about the continued use of the phrase ‘the command of the sea’, which they thought too absolutist in tone. So they started to dissect the concept, coming up with such breakdowns as that produced by the US Navy’s Admiral Eccles in 1972 (see Table 5.1).²³

Table 5.1 Types of Control of the Sea by Area and by Time

-
- | | |
|--|--|
| 1. Absolute control (command of the sea) | Complete freedom to operate without interruption. Enemy cannot operate at all. |
| 2. Working control | General ability to operate with high degree of freedom. Enemy can only operate with high risk. |
| 3. Control in dispute | Each side operates with considerable risk. This then involves the need to establish working control for limited portions for limited times to conduct specific operations. |
| 4. Enemy working control | Position 2 reversed |
| 5. Enemy absolute control (command of the sea) | Position 1 reversed. |
-

For much of the Cold War the Soviet Navy could hardly aspire to ‘absolute control’ even though Admiral Gorshkov, as we saw in Section 2.4, continued to think that ‘sea dominance’ was still a thoroughly valid concept. Accordingly, he and his colleagues adapted the notion to fit the Soviet Union’s initially rather constrained industrial, geographic and strategic circumstances. None the less, Soviet interpretations of the concept of sea dominance grew increasingly ‘orthodox’. By 1976 Gorshkov regarded it as

[a] vehicle for creating the definite preconditions that will allow fleet forces and means successfully to accomplish particular tasks in definite regions of the theatre in a concrete time period.²⁴

Inevitably, as Soviet aspirations grew, the conceptions of the US Navy grew more modest. The phrase ‘command of the sea’ dropped out of fashion and was replaced by ‘sea controP. According to Admiral Stansfield Turner:

This change in terminology may seem minor but it is a deliberate attempt to acknowledge the limitations on ocean control brought about by the development of the submarine and the airplane.... The new term ‘Sea Control’ is intended to connote more realistic control in limited areas and for limited periods of time ...it is no longer conceivable, except in the

most limited sense, to totally control the seas for one's own use or to totally deny them to an enemy.²⁵

Stansfield Turner argued that sea control comprised two complementary dimensions: 'sea assertion' or 'sea use and sea denial'. The first was to do with the ability to use the sea for traditional purposes. With NATO and the US Navy in mind, the admiral listed four such purposes:

- to ensure industrial supplies;
- to reinforce/resupply military forces engaged overseas;
- to provide wartime economic/military supplies to allies;
- to provide safety for naval forces in the *projection of power ashore* role.

This makes the essential point that sea control should no more be regarded as an end in itself than command of the sea. Corbett chose his words carefully: 'The object of naval warfare must always be directly or indirectly to secure the command of the sea, or to prevent the enemy from securing it.'²⁶

Corbett's use of the word 'naval' here was quite deliberate; navies must strive for sea control because that facilitated the achievement of naval objectives that would in turn help secure national objectives in a *maritime* campaign or war. He was trying to clarify the relationship between ends and means. He would probably have been worried about the American tendency in the 1970s to conflate the many functions of maritime power into four 'missions' (strategic deterrence, sea control, projection and presence) or even simply to two (sea control and projection), since it stood in danger of running together the two logically discrete procedures of securing command and exercising it, the means and ends of maritime strategy respectively.

This could be a very dangerous form of intellectual shorthand if it led people to suppose that sea control was an end in itself. From the start of the Cold War period, voices were raised against this practice. In 1948, for instance, Vice-Admiral R.L.Conolly commented: 'I believe we err in advancing the proposition that "Control of the Sea" is an end in itself. It is the exploitation of this control that is important.'²⁷ He was, however, by no means the first American to make the point.

Of course, much of this was merely giving old concepts a new twist. The use of the phrase 'sea control' merely gives greater emphasis to the relativities noted earlier. During the Cold War, too, the practice followed the theory. The adverse military balance on Europe's Central Front worked against the classic notion that sea control should be gained before reinforcement shipping set off across the Atlantic. In some circumstances, moreover, aspiring for even limited sea control might not be necessary anyway. According to Gorshkov, 'since combat activities had become swift and productive...the forces waging a struggle at sea did not need the creation of favourable conditions'.²⁸ Certainly, even in the past, it was by no means unknown for two sides to use the sea and studiously avoid encountering each other's main forces (such as in the Black Sea during the Second World War). It is not inconceivable that the same might happen again.

5.5 SEA DENIAL

The emphasis on sea control was also useful in that it threw up the corollary of ‘sea denial’, although that too can often prove to be quite a confusing concept. The British definition is: ‘[t]he condition short of full sea control that exists when an opponent is prevented from using an area of sea for his purposes’.²⁹ Here the objective is not to use the sea oneself, but to prevent the enemy from doing so. Stansfield Turner thought of it essentially as:

guerrilla warfare at sea. The denying naval commander strikes at a time and place of his choosing to achieve maximum surprise; he does not have to stand his ground toe to toe with the enemy but instead hits and runs. In this way a markedly inferior force can successfully thwart a superior force.³⁰

Technological developments such as smart mines, FACs, anti-ship missiles, even the famous fighting frogmen of Israel and Bangladesh, indicated that, through the capacity to inflict asymmetrical harm on powerful forces, sea denial capabilities were rising.³¹

Sea denial works in two ways. First, it may be an *alternative* to sea control. For some countries, the ability to prevent an enemy from using the sea to do them harm is all that is required, rather in the manner of the coastal defence theorists discussed in Section 2.6. Moshe Tzalel argues that Israel comes into this category:

One may state categorically that Israel had never needed to command the sea in order to prevail in wartime, and an attempt to secure such a position at this day and age is a luxury she cannot afford.³²

Many smaller, defensively oriented navies may feel this applies to them too, especially when up against far stronger forces.

Second, sea denial may act as a *complement* to sea control, or even a contribution to it. Robert Herrick explained how sea control and sea denial worked together as far as the Soviet Union was concerned:

Soviet writers for many years have talked about zones of defense. The Soviets hope to command the sea within a couple of hundred miles of their coasts. In these zones, they could use all their small fast craft, surface ships and PT boats, and even their expensive missile artillery. Beyond these zones—which would include their peripheral seas—the Barents, the Baltic, the Black, and the Sea of Japan—they have an area in which they hope to contest us in command of the seas. And beyond that, there is what they call the open-ocean zone, where they have to practise sea denial, because they cannot support their submarines with surface forces until they have more carrier-based air craft.³³

Even strong navies may need to resort to strategies of sea denial in some areas against one adversary while sticking to sea control elsewhere. The British and the Americans both did this against the Japanese Navy in the Indian Ocean and the Western Pacific, respectively, during the early part of 1942.³⁴

This latter version of sea denial can be very confusing, however, because it blurs the difference between it and sea control. It might be safer, indeed, to regard it as an indirect strategy of sea control, if the aim of the exercise is in fact to facilitate *your* eventual use of the sea somewhere. This recent comment on the ambitions of the South Korean Navy illustrates the point:

With limited financial resources, it is true that we can not build a strong navy that could fight and win a naval battle against China or Japan. But we can build a navy, which could deny others' attempts to block the SLOCs of Korea.³⁵

'Denying' the enemy's capacity to prevent your using your sea lanes of communication is *not* a form of sea denial; it is, instead, better described as a struggle for sea control as far as the South Koreans are concerned, certainly at the strategic and operational levels. But it might be a campaign of sea denial for their adversary, if that adversary had no serious pretensions for sea use himself.

The balance that navies strike between sea denial and sea control is mainly a function of their strength relative to the putative opposition and the geo-strategic conditions that apply in particular areas of concern. Broadly, the further away from the main source of their maritime power and the weaker they are compared with the threat, the more likely they are to veer towards sea denial.

5.6 CONTEMPORARY ANGLES

'...if our control of the sea had been contested just a little bit...Korea would have been lost very fast.'

Admiral Arleigh Burke³⁶

Towards the end of the twentieth century, and especially with the appearance of *The Maritime Strategy* and the associated quest for a 600-ship navy, US conceptions of sea control became noticeably less modest and their aspirations for ways of achieving it more ambitious. There was little doubting the importance of sea control, because of what it could lead to. The following are typical of this approach:

Sea control is therefore the fundamental capability of the navy. There is no forward presence on the sea without control of the sea. There is no power projection from the sea without control of the sea. There is no initiation or support of littoral warfare from the sea without control of the seas between the United States and the engaged littoral. Sea control is absolutely necessary, the thing without which all other naval missions,

and most national missions, precariously risk catastrophic failure. It is impossible to over-emphasize this point.

...if we cannot command the seas and the airspace above them, we cannot project power to command or influence events ashore; we cannot deter, we cannot shape the security environment.³⁷

Many other nations of the Asia-Pacific have demonstrated, in their preparations and deployments, the importance they attach to sea control even if it is rather more limited in geographic and operational extent than the US version. With the growth of their maritime dependence on the resources that can be derived from the ocean and on the shipping that crosses it, such nations have shown an increasing tendency to want to control their own areas of sea more rigorously and to push their capacity to defend their interest outwards. The Chinese Navy shows this regional tendency rather more clearly than most through its acquisition of more capable, longer-range warships, better submarines and maritime air forces and by deploying and exercising these assets as task forces. If there is a global trend in sea control, it is towards applying it to larger areas of sea.

But while this may seem all very traditional, the US Navy has grappled with a rather different problem—that is, what to do in a world in which no one seems seriously able to contest American sea control. Admiral William Owens summed up the ‘problem’ in the aftermath of Desert Storm:

We left knowing that the world had changed dramatically but that our doctrine had failed to keep pace. Little in Desert Storm supported The Maritime Strategy’s assumptions and implications. No opposing naval forces challenged us. No waves of enemy aircraft ever attacked the carriers. No submarines threatened the flow of men and material across the oceans. The fleet was never forced to fight the open-ocean battles the navy had been preparing for during the preceding twenty years. Instead the deadly skirmishing of littoral warfare dominated.³⁸

In some ways, this was a return to the point famously made by Samuel Huntington back in 1954. What was a powerful navy to do when it had no effective rivals for mastery of the open ocean? Most analysts have come up with three answers:

- In general, it allows a shift in focus from the struggle to secure sea control towards its exploitation. Now, as in the 1950s, the major Western navies are devoting relatively more attention, for example, to the projection of power ashore. As we saw in Section 2.5, it can be argued that ‘naval’ strategy (as represented by a Mahanian struggle for sea control) has been replaced by a Corbettian ‘maritime strategy’ in which the emphasis is on influencing events ashore. For many Western navies sea control has lost the prominence it once had—at least for the time being, until another possible peer competitor appears on the scene.
- This does not, however, mean that sea control is any less important, merely that at the moment it does not have to be fought for. One day, great navies might have to fight for it again. Moreover, the capacity to protect oneself against all manner of threats on the open ocean remains the ‘gold standard’ of naval capability which assures navies of so

much else. For both these reasons, navies will certainly seek to avoid the vulnerabilities that could easily come about through the neglect of the demands of sea control.

- The special topographical and operational circumstances that prevail in littoral waters require attention to a special form of sea control needed for the conduct of operations closer to shore. The more future antagonists engage in sea denial/coastal defence measures of the sort to be discussed shortly, the more outsiders will need to address the general issue of the 'battle for access' which should be regarded as a special variant of sea control.

For all these reasons, therefore, it would be quite wrong to argue that sea control has lost its traditional centrality in maritime strategy.

Chapter Six

Securing Command of the Sea

6.1 SECURING COMMAND OF THE SEA: THE OPERATIONAL APPROACH

Because it confers the capacity to use the sea while denying that use to the adversary, command of the sea is often important and sometimes crucial at the strategic level of war. Unsurprisingly, the possible ways of achieving or maintaining this advantageous state have dominated the theory and practice of naval warfare. Conversely, ways of limiting or outflanking a stronger adversary's capacity to command the sea or to exploit that command has been a constant preoccupation of weaker fleets.

This chapter will look at the three possible ways in which this can be done:

- By the pursuit of what Nelson called 'a close and decisive battle' in which the enemy's main naval forces are physically destroyed in Clausewitzian style.
- By a naval defensive of some form, often called a 'fleet-in-being strategy' in which strategic advantage is sought by a fleet unwilling to engage in battle against a probably superior adversary.
- By a fleet blockade through which a stronger fleet seeks either to neutralise an adversary reluctant to fight or to force battle on him.

Although they may seem very different, all three methods have one thing in common—they are principally conducted at the tactical and especially the operational levels of war. When discussing the first, Castex put it like this: 'the elimination of the fleet is then the first objective and the search for battle its necessary corollary'.¹ Although we tend to focus on Nelson's tactical conduct *at* the Battles of the Nile or Trafalgar, his ultimate operational skill lay less in that than in the successful campaigns he had conducted *beforehand* to ensure that those battles were indeed fought and conducted under favourable conditions. Partly, of course, this was 'merely' a matter of training his forces, tactically and technically, so that they would fight effectively when the time came—but Nelson's operational capacity to read and manipulate the general naval situation so that he could give 'battle with advantage' was at least as important. Exactly the same can be said about the other two methods by which command of the sea may be sought, maintained or attacked.

6.2 DECISIVE BATTLE

What Makes a Battle Decisive?

‘We see the great effect of battles by sea. The battle of Actium decided the empire of the world. The battle of Lepanto arrested the greatness of the Turk. There be many examples where sea-fights have been final to the war.’

Francis Bacon, *True Greatness of Kingdoms* (1618)

In 1921, the British government held an enquiry into the fixture of naval warfare in general and of battleships in particular. In his testimony to the committee, Admiral Richmond summarised the advantages of a decisive battle:

Much has been done by the destruction of the enemy’s capital ships. Concentration of our own units is no longer necessary: in the past, battleships were set free to act as escorts; today it is the cruisers and destroyers. Your defending force is multiplied, your powers of exercising pressure by blockade are increased. If the enemy possesses overseas bases, your powers of affording escorts to expeditions sent to capture them are increased instead. The dangers of invasion are removed and ships and men and material are set free for protection of trade, or attack upon trade. The whole experience of war tells the same tale—a great victory is followed by a dispersion of the ships that had been concentrated...[for it].²

A battle was decisive, then, not just for the immediate damage and loss the victor inflicted on the vanquished, but much more importantly for what happened at sea afterwards. A battle decisively won could effectively confer upon the victor command of the sea, the ability to use the sea decisively for his own purposes and to prevent his enemy from doing the same.

Mahan maintained that the total destruction of the enemy’s fleet was the best means of achieving control, ‘cutting off his communications with the rest of his possessions, drying up the sources of his wealth in commerce, and making possible a closure of his ports’.³

Mahan differentiated carefully, however, (and this is a point that is sometimes lost sight of) between battles with decisive results and sterile battles of no consequence, fought merely for the sake of winning them—such as the frigate actions of the war of 1812. Tactically glorious though they might be, they were, he said, scattered efforts, without relation to one another, incapable of affecting seriously the issues of war; or, indeed, to any plan of operations worthy of the name.⁴

Nelson’s victory in the 1798 Battle of the Nile, on the other hand, was a decisive battle worthy of the name, for not only were many ships sunk and casualties inflicted but much of strategic consequence flowed from it. To illustrate its importance, Mahan quoted Jurien de la Graviere:

The consequences of this battle were incalculable. Our navy never recovered from this terrible blow to its consideration and power. This was the combat which for two years delivered the Mediterranean to the English, and called thither the squadrons of Russia; which shut up our army in the midst of a rebellious population, and decided the Porte to declare against us; which put India out of the reach of our enterprise, and brought France within a hair's breadth of her ruin; for it rekindled the scarcely extinct war with Austria, and brought Suwarrow and the Austro-Russians to our very frontiers.⁵

This showed that battle at sea could be decisive at two levels: first for its influence on subsequent events at sea, and second for its consequences on land. Trafalgar (1805), for another example, seems decisive in that it permanently set the conditions for warfare at sea under which the Royal Navy would subsequently prevail, although this did not mean that nothing that mattered happened at sea afterwards. The argument for its decisive effect on land is weaker. Arguably, it finally made an invasion of Britain impossible, and required France to impose the 'Continental System' which in turn led to a war against the whole of Europe which even Napoleon could not win.⁶

Mahan thought that these two battles were decisive because:

- at the operational level, they decided the nature of future events at sea;
- at the much more important strategic level, they indirectly determined events on shore.

The English defeat of the Spanish Armada in 1588 or the Japanese defeat of Mongol sea-borne assaults in the thirteenth century are other examples of battles decisive at both levels.

These two encounters also show that battles can also be decisive for *preventing* opponents from changing the geo-strategic situation to their advantage. As at Tsushima (1905), Jutland (1916) or Midway (1942), things would have been very different at both levels of war had the battle gone the other way. At Jutland, moreover, the British actually lost more ships and men than the Germans; but, set against its operational and strategic consequence, this tactical aspect of this battle was, in effect, irrelevant. Admiral Gorshkov understood the point. He argued that the Germans fought the battle so that they could seize the initiative, destroy the British commercial blockade and impose their own. The British fought to stop them, succeeded, and so ensured that Germany would eventually lose the war.⁷

Many Britons were none the less convinced that unambiguous victory at the tactical level as well would have made Jutland even more decisive than it was. They tended to attribute this less than perfect performance to a failure in the Royal Navy of the time fully to appreciate the potentiality of decisive victory at sea. The pursuit of secondary aims (the *maintenance* of command of the sea) had taken over from the primary aim (the destruction of the enemy's forces). Moreover, thought Creswell, this cold, calculating, rational, scientific approach to the conduct of war had been allowed to overshadow the sphere of morale, human nature and the psychological consequences of achieving victory.⁸ Some critics attributed this 'failing' to a decline in the Nelsonic belief in the centrality of battle that could be found in some of Mahan's work but more especially in the malign influence of Corbett.

The conclusion seemed clear. Strong fleets should take chances and aim at victory, making it as total as they can, for

the assumption of a simple defensive in war is ruin. War, once declared, must be waged offensively, aggressively. The enemy must not be fended off, but smitten down. You may then spare him every exaction, relinquish every gain: but, till down, he must be struck incessantly and remorselessly.⁹

Hence, the strong criticism for over-clever concepts of avoidance and ‘manoeuvre’ especially when there was a realistic chance of doing so much more. After his victory at Beachy Head (1690), for example, de Tourville was told:

it would be more important to capture this [the Smyrna merchant] fleet... than to gain a second victory over the fleet of the enemy. His Majesty’s intention is not that M. de Tourville should seek the enemy in the Channel... In the event of their putting to sea, and in superior force, his Majesty does not wish him to attack; on the contrary, he wishes to evade them.

Although such ideas may be associated with Castex’s concept of ‘manoeuvre’, they have been very widely condemned in the orthodox naval literature. ‘Deadly instructions these’, commented Richmond, for instance. ‘They did more to destroy the French Navy than the English guns ever did.’¹⁰ According to their critics, this conscious relegation of the pursuit of command of the sea through decisive battle condemned the French to permanent inferiority. Even when they had the opportunity of inflicting heavy defeat on the British (such as off Minorca in 1756, Grenada 1779 and the Saints in 1782) they passed it up lest they compromise what they thought was their main mission.

The difference between the two approaches to the centrality of battle is best summed up by looking at French and British accounts of the 1794 Battle of the Glorious First of June: the former focus on the safe arrival of a 117-ship grain convoy from the United States—the latter on the sinking of one French ship of the line and the capture of six others.

Decisive Battle: The Need for Moderation

‘CLEOPATRA: He goes forth gallantly. That he and Caesar might Determine this great war in single fight.’

Shakespeare, *Anthony and Cleopatra*, IV/4

To judge by Shakespeare, the attractions of determining all by a single fight has a long tradition and Corbett was attacked, as we saw in Section 2.5, for seeming to go against it, but he stuck to his guns:

The idea that naval strategy necessarily consists in gladiatorial combats between fleets is absurd...By a strange misreading of history an idea had grown up that its [the battlefleet's] primary function is to seek out and destroy the enemy's main fleet. This view, being literary rather than historical, was nowhere adopted with more unction than in Germany, where there was no naval tradition to test its accuracy.¹¹

He argued that a bull-headed pursuit of decisive encounters was unwise for two different sets of reasons—the first to do with the practical problems in having them, and the second with their perceived importance relative to other things that the fleet could be doing.

Corbett was clear that single decisive battles are difficult to arrange. Even though they were the 'supreme function of a fleet...it must not be forgotten that convenient opportunities of winning a battle do not always occur when they are wanted'.¹² Decisive victories seem usually to depend on some kind of significant superiority, whether it be in maritime geography, weaponry, operating skill or the number and quality of men and ships. Often the inferior side will have some inkling of this in advance and so will not cooperate in its own destruction. Instead, an encounter between the main fleets may be as strenuously avoided by the weaker side as it is pursued by the stronger. At sea, unlike on land, a weaker force could effectively be removed from the board (by putting it in an inviolable harbour for example); at sea, also, there was much more freedom to manoeuvre and it could often prove difficult actually to find the victim.

Generally, it is almost impossible for both sides to concentrate all, or even most, of their resources in one spot at one time for one grand encounter, even if they wanted to. There will always be ships under construction or repair, in transit from one place to another, or away doing other things in other places. As Tunstall observed:

Superficially, at any rate, the Battle of Trafalgar appears to have been one of the less important events of the war. Only a small part of Bonaparte's naval forces were destroyed and only one-sixth of the total British ships of the line were actually engaged.¹³

For these two reasons, decisive victory at sea more usually comes about cumulatively, at the operational/campaign level, than at the tactical level through single engagements. The normal pattern then, is a sequence of battles which only become decisive when their results are added together. As the commander of the English forces confronting the Spanish Armada in 1588 remarked, 'Their force is wonderfully great and strong; and yet we pluck their feathers by little and little.'¹⁴ This could even apply when both sides actively sought a decision, such as in, for instance, the Dutch Wars of the seventeenth century and the Pacific campaign of the Second World War.

Leaving aside their strategic consequence for operations ashore, battles often proved less decisive for their consequences at sea than appeared the case at the time. Uncommitted forces would help the loser recover after a defeat. This was particularly true of the sailing era when the disease that was associated with prolonged sea-keeping and the rapidity with which timber warships could be repaired made even such victories as Beachy Head (1690) surprisingly transient. In any case, it was sometimes difficult to

tell who had actually won such battles as Ushant (1778): Admiral German concluded, as a rule of thumb: 'whoever is first at sea may fairly claim the advantage in the late engagement'. Not surprisingly, given all these limitations, the naval war just seemed to carry on even after the great Battle of Trafalgar.¹⁵

Indeed, it is possible to argue that their victory at Jutland actually made things *worse* for the British, since the Germans afterwards chose to concentrate their efforts instead on the U-boat campaign which initially proved much more difficult for the Royal Navy to handle. Given all the difficulties, it was therefore important to ensure that the strategic consequence was worth the effort. But in many cases this was debatable. On the Battle of Jutland for example, what difference would a tactically more decisive victory at Jutland have made to British fortunes anyway? If the extra gains were strategically insignificant, what would have been the point of Jellicoe risking all in order merely to sink a few more German ships?

The linkage between victory or defeat in battle and the capacity to use the sea for strategic purposes (successfully defending trade, for example) is evidently more complicated than might be deduced from a simplistic reading of Mahan.

For all these reasons, both Corbett and Castex warned against the unrelenting pursuit of decisive victory at sea. In this, Castex was following the rather different philosophy of naval warfare adopted by the French in the eighteenth century:

The French Navy has always preferred the glory of assuring or preserving a conquest to that more brilliant perhaps, but actually less real, of taking some ships, and therefore has approached more nearly the true end that has been proposed in war.¹⁶

The French approach to battle found expression in their famous 'ulterior objects': a mission to accomplish, such as the protection of a convoy, or the support of a land operation, which took precedence over seeking out the enemy and destroying him in a decisive battle. The notion was based on the view that decisive battle, and even the command of the sea that might follow from it, was but one means to an end and there were viable alternatives.

This strategic and operational approach to the business of war at sea was exemplified at the tactical level too. When they were, despite everything, caught at sea by the Royal Navy, the French generally adopted a particular style of battle tactics most appropriate to their conceptions of war. Generally, they preferred to stay to leeward of the British from where they could disengage more easily. They tended to fire at their enemy's masts and rigging to slow him down, making their escape easier.

This, plus high levels of tactical proficiency, partly derived from close attention to the works of Père Hoste and Bigot de Morogues, made the French very hard to fix and destroy even when located. The difficulty was compounded by the excessive British adherence to the sanctity of 'the line'. Hence the continual frustration of the Royal Navy noted by John Clerk of Eldin (see Section 2.3).

For his part, Corbett argued that decisive victory at sea should be pursued, but only in a clear-sighted and moderated way. It should certainly not be allowed to blind the navy to everything else that could, or needed to, be done at sea. Japanese experience provides a good example of the operational and strategic dangers of doing this. Nostalgic memories

of the Battle of Tsushima had by the time of the Second World War seduced the Japanese into a fixation on the 'one decisive battle' idea. This led them to neglect the defensive aspects of naval war, to misuse the submarine, to pay too little regard to the necessities of protecting their own trade and supply lines and to neglect the possibilities of attacking their enemy's.

Instead, it was a question of striking a balance between the urgency and advantage of the destruction of the enemy's forces, set against its difficulties, risks and requirements—when compared with those of other naval necessities and possibilities. Sometimes, perhaps even most times, the unrelenting pursuit of battle made strategic and operational sense, but sometimes it would not. Corbett made the essential point, this time in his description of Nelson's Mediterranean strategy in the Trafalgar campaign:

No great captain ever grasped more fully the strategical importance of dealing with the enemy's main force, yet no one ever less suffered it to become an obsession; no one saw more clearly when it ceased to be the key of a situation, and fell to a position of secondary moment.¹⁷

6.3 FORMS AND STYLES OF DECISIVE BATTLE

Decisive battle can take many forms depending on a wide variety of technological and geo-strategical circumstances.

The Changing Technology of Battle

In the days of the galley, battle was a complex affair which mixed the techniques of land and sea warfare. Thus a contemporary report of the battle between Demetrius and Ptolemy in 306 BC off Salamis:

The two fleets being then about 600 yards apart, Demetrius gave the signal to engage by hoisting a golden shield which was seen by all (and doubtless repeated by light craft in rear of the line). Ptolemy did the same and the two fleets closed quickly with each other, as the trumpets sounded the charge and the crews cheered. The engagement opened with archery and stones and darts from the catapults, and many were wounded during the approach. The contact was made, the rowers being incited by the boatswains to make their greatest exertions, and the men on deck fell on the enemy with spears. The first shock was violent, some ships had their oars swept from their sides and remained motionless with their soldiers out of action. Others, after striking, rowed astern to ram again and in the meantime the soldiers attacked each other hand to hand. Some captains struck their opponents broadside to broadside, and the ships being held in contact became so many fields of battle with the boarders leaping to the enemy's deck. In some cases these missed their footing and falling overboard were drowned, while others making good their foothold killed the enemy or drove them overboard. Many and varied were the fortunes of

the ships. In one case a weaker crew was victorious owing to its higher deck and in another case the better crew lost because its decks were low. For luck has much to do in naval actions. On shore valour is pre-eminent, whereas at sea many accidents occur which bring ruin to those whose valour deserves success.¹⁸

The Chinese also developed technologies that turned battle more into stand-off affairs, although ramming and close action still usually marked their closing stages. In AD 1161 the large navy of the Song dynasty destroyed an invading Jin armada in two battles in coastal waters and on the Yangtse river at the Chenjia peninsula and Caishi respectively. These battles were won by armoured warships (some equipped with paddlewheels) equipped with stand-off weaponry including fire arrows and bombs and explosives fast-fired from trebuchets on deck. There is no doubt that these two battles were decisive for the future of Song China.¹⁹

In the Indian Ocean of the late fifteenth century, the Portuguese took this one stage further with the marine nail and naval artillery as we saw in Section 4.9. The result was a series of technology-determined encounters in which small Portuguese squadrons smashed much more numerous fleets and dominated the area for decades. The next stage in the development of naval battle was marked by the attention paid to securing the levels of physical control required to wield the battlefleet as a cohesive whole in order to make the most of the naval artillery that it could provide. As the British discovered, this could however lead to a reliance on the sanctity of the line that often stifled tactical initiative and limited battle outcomes.

At the end of the eighteenth century, a Nelsonian stress on ‘mission command’, in which responsibility for making tactical decisions in the light of the commander’s intent (see Section 2.7) was delegated downwards, restored the situation, and helped to produce more such decisive encounters as the Battles of the Nile and Trafalgar. Nelson conceived an Admiral’s task to be ‘to bring an enemy’s fleet to battle on the most advantageous terms to himself’. No further order should be necessary,

Being assured that the admirals and captains of the fleet that I have the honour to command will, knowing my precise object, that of a close and decisive battle, supply any deficiency in my not making signals...

The problem was that Nelson’s brilliant success produced a set of expectations for future battles that proved impossible for his successors to realise.²⁰

Naval technology advanced only incrementally during most of the sailing ship era, but in the nineteenth and twentieth centuries, the world’s navies were engulfed in a rising flood of new technology. Propulsion, weaponry and protection were all revolutionised, and there were many who supposed that the principles of maritime strategy and concepts of battle would change too.

Some believed that the sureness and independence of movement that steam-power afforded allowed evolutions to be exact and geometric, making possible pretty manoeuvres in triangles, squares and parallel lines. Others thought steam would plunge the naval battle immediately into a ferocious and swirling confusion. Views were equally divided about the ram (the idea of which fleetingly and perversely reappeared after the

Battle of Lissa in 1866), the breech-loading gun, the torpedo, the mine, the submarine and, eventually, the aircraft. These developments had a profound influence on the philosophy of ship design: they revolutionised the size and shape of the fleet, completely altering the way in which ships were classified and organised. Instead of the traditional three-fold division of ships-of-the-line, cruisers and frigates, there grew up an endless variety of specialised ships and also the almost metaphysical notion of 'the balanced fleet'—a formation in which all the diversity of modern naval warfare was adequately represented and efficiently co-ordinated. These technological developments transformed the tactics of battle, and therefore the form and style of naval operations and strategy.

This process gathered momentum through the twentieth century. As that century closed, there were many who thought, and who continue to think, that the arrival of a new information age will have equally far-reaching consequences for every aspect of naval activity in the twenty-first century. Even so, as we saw in Section 4.7, access to and use of the latest naval technology is only one of the determinants of the nature and consequence of naval operations.

Battle and the Strategic Context

The geo-strategic environment, the size of navies, the strength of their maritime preoccupations can be equally or more important than the technology.

Analysis of the character of naval battle has tended, perhaps naturally, to focus on the large set-piece encounters such as Trafalgar, the Battle of the Nile, Tsushima, Jutland, Midway and so forth. This might give the false impression that decisive battle is the exclusive domain of the great ships of the great navies.

In fact the fate of nations may often depend on almost forgotten small ship encounters. A good example occurred in 1776. At this early stage in the War of American Independence, the British planned to come south from Canada through the Richelieu River and Lake Champlain to take Fort Ticonderoga and then New York, splitting the rebels into two. Sir Guy Carleton amassed a specialist armada of small riverine boats, took them up and over the rapids of St Teresa and St Johns (a considerable achievement in itself). On the way to Fort Ticonderoga, they encountered Benedict Arnold who had likewise constructed a defensive armada at Shenesborough. Arnold's aim and 'the one use of the Navy, was to contest the control of the water, to impose delay, even if it could not secure ultimate victory'. His force comprised five two-masted galleys, eight gunboats (known as 'gondolas') and one sloop. One of the gondolas survives, the *Philadelphia*, which was raised in 1935. With a crew of 44, the *Philadelphia* mounted a 12lb cannon in the bow, two smaller 9lb cannon on the side, and several swivel guns intended to fire 1lb shot specifically at the enemy's rigging and/or personnel. The artillery was an interesting mix of seventeenth-century Dutch and Swedish guns and contemporary British weaponry, illicitly obtained.

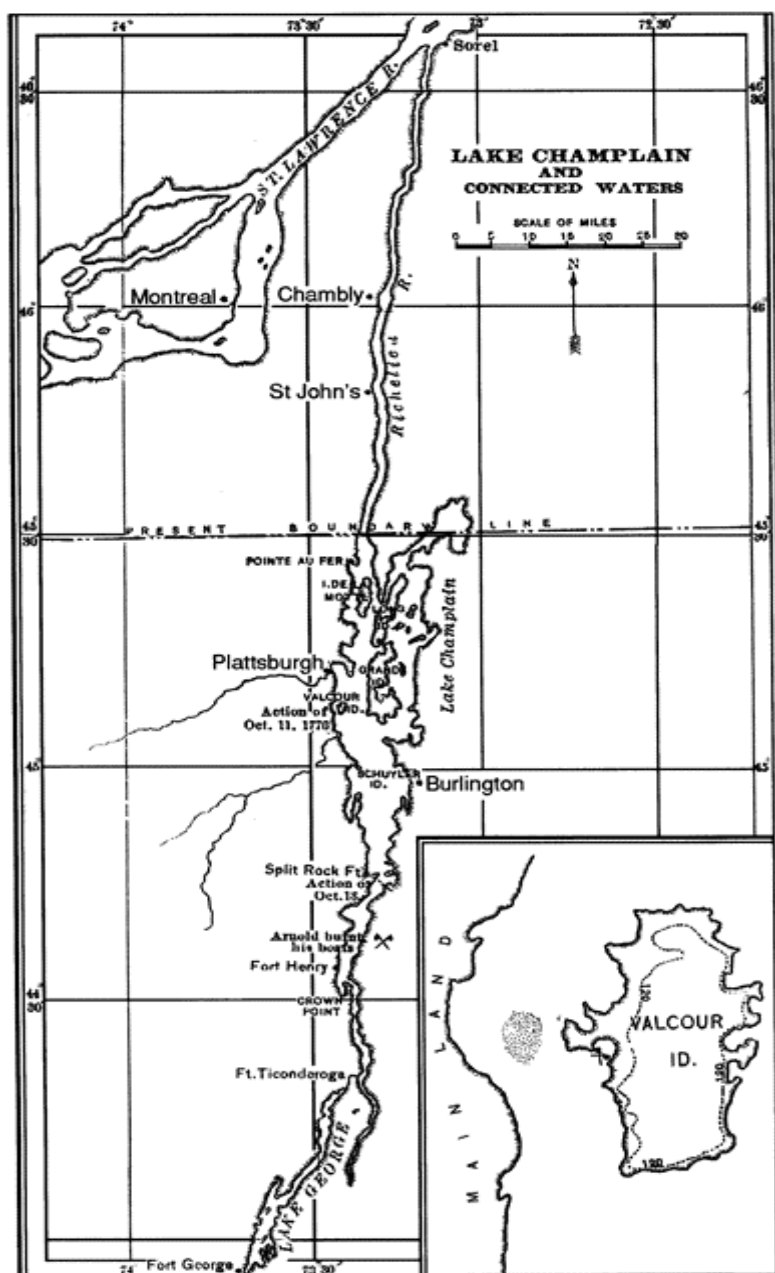


FIGURE 6.1 The River Richelieu Campaign, 1776

(Source: Mahan, 1913)

The first encounter between the two sides off the island of Vacour was inconclusive, with contrary winds and the onset of darkness preventing the British from really getting to grips with the Americans. But on 11 October 1776 there occurred the decisive battle in which the American schooner *Royal Savage* was burnt and the *Philadelphia* sunk by a 12lb ball (with the British War Office broad arrow still showing after 159 years under water) below the waterline. In the aftermath, the entire American squadron was captured, driven aground or burnt.

But the delay and the damage inflicted on the British persuaded Carleton to call off his projected assault on Fort Ticonderoga. The campaign against New York was put back a year, and this provided an opportunity for what turned out to be the decisive intervention of the French in the American war. The Americans benefited enormously from ‘the invaluable year of delay, secured to them by their little navy on Lake Champlain’. The British won the battle at the tactical level but lost the associated campaign, with, eventually, dire strategic consequences. Mahan reasonably called this ‘a strife of pigmies for the prize of a continent’.²¹

Mahan also shows how important small ship activity on rivers could be in his book, *The Navy in the Civil War: The Gulf and Inland Waters*. Here too small ships operated to exactly the same principles as did great ships on the open ocean. The extraordinary campaign between the Germans and the Russians on Lake Ladoga between 1941 and 1944 supports the same conclusion. Supplies shipped across the lake were essential to the survival of Leningrad, then under German siege. Control of the lake was therefore crucial, and was the objective a long campaign in which the Russians lost 124 small ships totalling some 50,000 tons. The main set-piece battle (in fact the biggest of the whole war between the two navies) took place on the night of 25–26 August and saw the destruction of 38 German Siebel ferries and two Italian MAS (torpedo) boats. Success in the Russian campaign to maintain control of the waters of Lake Ladoga made a material difference to Leningrad’s capacity to survive the siege, and so helped shape the strategic conduct of the war on the Eastern Front.²²

Such encounters show that the characteristics of decisive battle and sea control, usually explained through reference to the activities of the great ships of great navies, apply just as much to those of tiny ships from navies both great and small, and also that their operational and strategic consequences may be as great.

6.4 HOW TO ACHIEVE A DECISIVE VICTORY

Diverse though the technological and geo-strategic conditions in which they operated might be, most fleet commanders were mainly interested in how they should seek to win the battles that most analysts thought central to successful naval campaigns and wars. This explains why maritime theory started at the tactical level. Could the principles of war be applied to the conduct of naval battle in a way that applied to all situations? If so, what did history and calm reflection show the results to be? Countless surveys and battle histories suggest that the following characteristics have often been critical, whether or not they be elevated to the status of principles.

Operational level concentration

Commanders at the operational level need to provide the conditions in which subordinates can win battles at the tactical level, if that is indeed the valid priority in the conditions of the time. In the seventeenth century, the Dutch, for example, were plagued throughout by having divided aims: to seek decisive battle and, at the same time, to protect their trade: the British immediately compounded Tromp's difficulty by launching attacks on the Dutch merchant and fishing fleets. 'I could wish to be so fortunate', Tromp wrote, 'as to have only one of the two duties—to seek out the enemy or to give convoy; for to do both is attended by great difficulties.' But the pressure of the mercantile community for direct protection forced Tromp to try to live with his problem. Whenever the Dutch did concentrate on seeking a decision, they were beset with complaints from the 'murmuring community' of merchants upset about delays and losses to their ships. Such difficulties were the reason why Mahan, Colomb and Richmond put so much stress on concentrating forces on the destruction of the enemy's main force and the gaining of sea control before dispersing them to exercise that control.²³

Having an accurate tactical picture

In mediaeval times battle usually took place in coastal waters, as the chance of discovering an enemy on the high seas was so slight. At Trafalgar, the two fleets were in each other's sight at the break of day and they slowly approached each other at a rate of two knots until noon. 'The weather was clear and the sun shone on the sails of the enemy and their well-formed line. The British sailors admired the beauty and the splendour of the spectacle.' Nelson had hours in which to make his preparations and for much of the time, even when battle was joined, knew exactly what was happening. At Jutland, on the other hand, the sailors saw their enemy, if at all, as smudges on a distant and murky horizon. The fleets approached each other at 40 knots, and operated for the most part in considerable confusion. 'I wish someone would tell me who is firing', complained Admiral Jellicoe, 'and what they are firing at.' At the Battle of the Phillipine Sea (1944), Admiral Raymond A. Spruance knew the Japanese battle doctrine, order of battle, readiness figures and battle plan and received decoded intercepts of the Japanese as they executed it. Spruance was able to make a free choice to fight on the defensive, and secured his place in history as the commander of one of the most decisive engagements ever fought by the US Navy. The importance of accurate information about the adversary and his movements is obvious.²⁴

Effective command and control

More than anything else, it is effective command and control that turns a collection of warships into a cohesive fighting fleet. There seem to be three components to this. First, there is the physical means by which the fleet is commanded, whether this be by trumpet calls, flags, radio or e-mail. Because communications were so central to command and control and therefore to tactical efficiency, the Royal Navy's successive Fighting Instructions were strongly linked with its Signal Books. Second, there is the curiously

under-studied phenomenon of naval combat leadership. Studies of great leaders such as Nelson abound, but it is far from clear whether such qualities are transferable, apply to all circumstances at all times, are innate or can be learned. Nearly everyone, though, would agree that good leadership (in whatever form that takes) is essential. Third, there is the balance to be struck between centralised control and that form of delegated authority that has become known as ‘mission command’ of the sort associated with Nelson. One of the reasons for the disappointing tactical performance of the British at the Battle of Jutland was Admiral Jellicoe’s adoption of a very centralised concept of command at a time when the physical communication system was not capable of passing orders and information up and down the command chain with sufficient speed and accuracy. This shows how the various aspects of command and control interact. Arguably it would have been better for Jellicoe to have adopted the Nelsonic device of telling his subordinates broadly what he wanted them to do and then standing back and letting them get on with it.

Tactical concentration

Admiral Sir Reginald Custance wrote, ‘It is a first principle in strategy to be as strong as possible at the decisive point.’ This did not mean necessarily having all your forces in one place, but deployed with the same object in view, carefully coordinated and mutually supported. Even a divided fleet must be a cohesive whole. As Mahan put it:

Such is concentration reasonably understood, not huddled together like a drove of sheep, but distributed with a regard to a common purpose, and linked together by the effectual energy of a single will.²⁵

Intelligent division, indeed, was central to the whole idea of concentration—a point developed by Corbett. ‘Without division’, he declared, ‘no strategical combinations are possible.’²⁶ The whole of the Trafalgar campaign was a splendid example, he thought, of such elastic concentration. Best of all was the form of divided deployment which lured the enemy to destruction by its appearance of weakness. Nelson aimed always at bringing the whole of his forces against a portion of the enemy’s, particularly by means of an assault on the van or the rear of the enemy fleet. Generally, the rear was better targeted, as it would take the van longer to turn round to come to the rescue. At the Nile, Nelson even managed the celebrated ‘double envelopment’: but always what Mahan called ‘the essential maxim of all intelligent warfare, which is so to engage as markedly to outnumber the enemy at a point of main collision had to apply’.²⁷

Tactical manoeuvre

To use Mahan’s phrase, ‘intelligent warfare’ requires an effective balance to be struck between the aggressive pursuit of the tactical initiative on the one hand and considered insight on the other. Unadulterated aggressiveness of the sort espoused by Admiral Cochrane: ‘Never mind manoeuvres, always go at them’, clearly has its place, but so does the *considered* pursuit of tactical advantage. Castex puts it well:

One must mistrust the mystique of the offensive, the sentiment that would lead one to adopt it regardless of circumstances without considering its appropriateness to the situation or its consistency with a rational plan of manoeuvre...²⁸

Logistical efficiency

Logistical support may be easier for navies than armies but the vital role of the 'fleet train' in the Pacific War 1941–45 is but one example of the crucial importance of an efficient supply of all war essentials (ammunition, food etc.). The shape and form of amphibious operations, moreover, are often dominated by such considerations, as the Falklands campaign showed.²⁹

Use of the environment

The capacity to exploit the physical characteristics of the particular battle area (in terms of the wind and weather, the form of the coastline, underwater conditions) is especially important, especially when the sea is actively hostile.

Weaponry

The number and power of the guns was often a deciding factor in the battles of the sailing ship era, together with such things as the number, seaworthiness and speed of the ships. Even methods of attaching cannons firmly to the deck, or the fire control systems in the British fleet at Jutland could apparently make all the difference.

Resilience

The capacity of warships to take damage without unduly impairing their capacity to perform their tasks has often proved crucial. In both world wars, German warships had a significant advantage over their British counterparts in this respect. During the 1982 Falklands campaign the British expensively re-learned the dangers of cutting costs (especially in fire-retardation) when fitting out their ships. The crew needs to be resilient too, especially at times when a desire to avoid casualties could come to dominate tactics, rather than the urgent requirement to defeat the enemy. A sense of being excessively vulnerable to damage or loss might, more generally, lead to a decline in the readiness to take risks that has often proved to be an essential component of successful tactics.

Fighting spirit

Since the morale and commitment of the officers and crew is often absolutely crucial to the outcome of battle, a navy's personnel tends often to be regarded as the main factor in its success or failure. Battle is chaotic, shambolic and terrifying for both sides; the capacity to survive the chaos in a better state than the opponent is a function of crew training, skills and general commitment. Talking about the Falklands experience, Admiral Woodward points out that there is little new in this:

I reflected as I looked at the signals now coming from Carlos water that little had changed since the eighteenth century, except of course for the hardware and the speed of the conflict: the people were just the same, the spirit in the ships was just the same, the courage of the men was just the same...What difference between *Ardent*, crippled and burning, still fighting and Sir Richard Grenville's *Revenge* all those centuries ago?³⁰

Fighting spirit is a form of capital, something that needs to be continuously built up and nurtured in peacetime, husbanded and expended only with care in war.

6.5 MODERN FORMS AND CONCEPTS OF BATTLE

In the Cold War era, most analysts assumed that any shooting war would be short, either because nuclear weapons would be used, or through fear that they would be used unless conflict was kept short. That being so, the pursuit of battle for its own sake seemed improbable, since navies would probably need to move immediately to the multifarious tasks of exercising command, instead of seeking out their opposite numbers for some preliminary encounter. For such reasons, it was easy to see why 'Most analysts would agree that except for possible conflict along the sea lines of communication, the days of battles on the high seas are gone for ever'.³¹ Both the superpower navies clearly prepared for it, none the less. Admiral Gorshkov continued to argue that 'The battle always was and remains the main means of solving tactical tasks'. This view was exemplified by the nature of Soviet naval construction, which clearly aimed at producing ships, submarines and aircraft with considerable battle-winning firepower.

The Americans likewise remained faithful to the Mahanian emphasis on the destruction of the enemy's naval forces. One US Chief of Naval Operations, Admiral Thomas B. Hayward, put it like this:

In a war at sea the most rapid, efficient and sure way to establish the control of essential sea areas is to destroy the opposing forces capable of challenging your control of those seas...[It is necessary to]...impose maximum attrition early in the war, on the heart of Soviet offensive capability, the ships, aircraft and submarines capable of attacking our own forces and shipping.³²

This very traditional thinking lay behind the US Navy's adoption of *The Maritime Strategy* and explains their aspirations for a balanced fleet of carriers, surface ships and submarines capable of taking on and destroying the Soviet Navy in an offensive campaign well forward of the Greenland—Iceland—UK gap.

Any such battle would have been a particularly diverse affair of subsurface, air and surface engagements. In the far north, the battle between Western carrier battle groups and Soviet land-based air, and the underwater battle between the submarines of both sides, would have been especially important. The campaign would have covered a much wider area of sea than before. Competing fleets would not line up to have a shoot-out but would engage in carefully orchestrated activities involving widely dispersed,

complementary and supportive forces.³³ Probably each individual encounter would have been more fleeting, too, with much more stress on the first salvo and the first strike, great intensity, rapid expenditure of weapon stocks and high casualty rates, especially on the losing side. The range and precision of the new weaponry and contemporary command and control procedures would have been crucial for the outcome of such a dispersed and diffuse operation. NCW and the other technological developments since the end of the Cold War would probably confirm, indeed exacerbate, these trends.

A brief review of four very different naval encounters over the past generation illustrate the variety of forms which the struggle for sea control through the pursuit of battle can now take.

The Indo-Pakistan War, 1971

There was no doubt that the Indian Navy was animated by the most Mahanian of principles. As Indian Admirals Krishnan and Kohli put it:

All our discussions stemmed from one overriding thought, a firm conviction, bordering on an obsession, that should war come, the navy should throw everything it had into battle and our entire strategy from the very onset of hostilities should be one of bold offensive. We must scrap, erase and wipe off from our minds any ideas of a defensive posture, we must seek action, taking any risks that were necessary and destroy the enemy in his ports and at sea.

The main thrust of the Western Naval Command Plan was to engage and destroy as many Pakistani main naval units as possible. Their destruction would deny the Pakistani Navy any chance to interfere with our trade or to mount any bombardment attacks on our homeland.

This led to several successful missile attacks on the Pakistan fleet in and off Karachi, together with operations against Pakistani shipping and shore positions. In response, Pakistani submarines sought out major Indian warships. The PNS *Hangor* sank the Indian frigate INS *Khukri* but PNS *Ghazi*, sent round into the Bay of Bengal to attack the carrier INS *Vikrant*, itself sank *en route* under somewhat mysterious circumstances.³⁴

The Arab-Israeli War of 1973

This was a short, small ship campaign between territorial neighbours in a war dominated by events on land. Israeli fast-attack craft quickly established their tactical superiority at sea, and in the second stage of the conflict, the Israelis found it necessary to attack the Syrian and Egyptian Navies in their harbours with a variety of exotic craft (explosive boats, frogmen, dinghies and submersibles) rather in the style of the *Mukti Bahini* in the Indo-Pakistan war two years earlier.³⁵

The Falklands campaign, 1982

The British were aware that in the Argentine Air Force and Navy (largely trained and equipped by the British and French) they faced potentially serious opposition and would have preferred to have established clear naval and air superiority before having to engage in the hazards of a contested amphibious operation. Not unnaturally, the Argentines refused to cooperate. Instead, after the failure of a pre-emptive Argentine air-strike, a suspected pincer movement on the British Task Force by major surface units was thwarted by the sinking of the old heavy cruiser *General Belgrano* on 2 May 1982. Argentine submarine efforts proved equally unavailing. Politics played a role, too. Permission to attack the Argentine Carrier *Veintidnco de Mayo* in Argentine territorial waters was explicitly turned down by the British War Cabinet for its likely effect on public opinion. As a result, the two sides were locked into a long, tiring, cumulative battle between the Task Force and Argentine Air Force and naval aircraft, which had to be conducted alongside the amphibious operation.³⁶

The Gulf War, 1991

Widespread notions that large surface ships, especially carriers, would be too vulnerable in narrow waters when confronted by swarms of missile-armed fast-attack craft were comprehensively disproved in this conflict. British and American ship-borne helicopters took on the Iraqi Navy when it fleetingly appeared and decisively defeated it, especially in the so-called 'Bubiyan Turkey Shoot' of 29 January 1991. But this was critically dependent on the Coalition's having established the degree of air superiority that allowed the helicopters to operate so freely in the first place. Moreover, this sea-control operation took some time, partly for political reasons (there was a reluctance to risk Kuwaiti personnel and installations through attacks on harbours in Kuwait) but mainly because the Iraqi Navy was so elusive.³⁷

Two things emerge from this review. First, that the considerations discussed in this section do indeed apply to all navies great and small. Second, that even when one side is set on forcing battle on the other, the realities of the short war, the operational elusiveness of the weaker side and political considerations are major constraints on decisive action. Never-theless, these considerations quite evidently do not make it impossible. For this reason, most navies continue to take battle-winning capacity as the main criterion by which to judge their development, preparations and performance.

6.6 OPERATIONAL ALTERNATIVES TO BATTLE

There are two alternative approaches to the pursuit of battle as a means of securing, maintaining or contesting command of the sea. The first is to adopt some kind of fleet-in-being/naval defensive concept of operations. The second is to impose a fleet blockade. Both of these operational approaches are aimed not so much at the enemy's forces but at reducing his capacity to use the sea strategically, while increasing your own. The adoption of a fleet-in-being strategy is intended to reduce the strategic value of the other

side's ability to command the sea; the second aims at denying/reducing the enemy's access to the sea. Both approaches proceed from the assumption that the command of the sea is a relative not absolute thing.

6.7 THE FLEET-IN-BEING APPROACH

This approach is of particular value for a fleet that knows it is inferior to its adversary (in number or quality) and cannot realistically hope to gain or contest command of the sea by the normal method. Countries in conflict with the great maritime powers have faced the problem but, as Castex pointed out, it is by no means restricted to them. The strongest navy may also be forced into a limited defensive in certain circumstances, perhaps while pursuing a vigorous offensive elsewhere. At some stage or other, in short, all navies have had to deal with the problem of making the best use of resources too limited to risk in a straightforward pursuit of battle with a superior adversary.³⁸

The solution has usually been to adopt one of a number of related naval options often loosely bundled together under the not-very-accurate title of a 'fleet-in-being strategy'. They range from a moderated offensive at one end of the spectrum to passive defence at the other. They have been attempted on the high seas and in coastal waters, for long periods of time and for short. They appear in many forms:

- Some actually aim eventually to achieve a useful degree of command of the sea, but by a roundabout route avoiding a decision by battle, at least for the time being.
- Others are an attempt by an inferior navy to derive positive strategic benefit from its forces by doing something useful at sea (such as attacking the enemy's trade or coasts) without aspiring to the defeat of the other side's main forces. Indeed the latter will be avoided as much as possible. Hence the French Navy of the eighteenth century with its doctrine of 'ulterior objectives' discussed in Section 2.5 and earlier in the chapter.
- Others have the essentially negative aim of denying, perhaps by continuous harassment and evasion, a stronger enemy the capacity fully to enjoy the fruits of superiority.
- Some approaches aim merely to ensure the continued survival of a weaker fleet, rather in the manner of the Russian Navy during the Crimean War.

Widespread use of the phrase itself can be traced back to a study conducted by Admiral Philip Colomb of a controversial event in the summer of 1690. Briefly, the situation was that the Royal Navy had been dispersed in several detachments, each of which was inferior to a large French force under the command of Admiral de Tourville, hovering menacingly off the Isle of Wight. The largest British force in the area was an Anglo-Dutch fleet commanded by Admiral Lord Torrington. On 26 June, Torrington reported that the French were in

a strength that puts me beside the hopes of success, if we should fight, and really may not only endanger the losing of the fleet, but at least the quiet of our country too: for if we are beaten, they being absolute masters of the sea, will be at great liberty of doing many things they dare not attempt whilst we observe them.

For this reason, Torrington proposed to avoid the enemy fleet, until reinforcements eventually arrived from elsewhere. In the meantime:

whilst we observe the French, they can make no attempt either on sea or shore, but with great disadvantage...Most men were in fear that the French would invade; but I was always in another opinion: for I always said, that whilst we had a fleet in being, they would not dare to make an attempt.³⁹

The government, however, were not persuaded by this line of argument and Torrington was ordered into battle anyway. Possibly they misunderstood his intentions, thinking he meant to do no more than preserve his fleet from danger. At all events, the result was defeat at the Battle of Beachy Head on 30 June 1690. Court-martialled after this affair, Torrington was honourably acquitted but not employed at sea again. The government accepted that Torrington's sensible actions before and after the battle had dissuaded the French from invading, but basically the British preferred their enemies to be safely sunk rather than merely outwitted. Indeed, Torrington's critics pointed out his approach largely succeeded because of de Tourville's mistakes. De Tourville should have followed up his victory at Beachy Head: instead he allowed himself to be diverted into a pointless raid on Teignmouth, where he destroyed several harmless coastal vessels and carried off a few sheep. As Richmond pointed out, 'if Tourville had observed the great principle that tactical victory should always be followed up and consummated in relentless pursuit', the outcome might well have been fatal for the English.⁴⁰

But Corbett thought the Torrington affair and British experience at the hands of the French in the Seven Years' War (1756–63) showed the full potentiality of the naval defensive, especially in military or political circumstances where there was benefit in playing for time.

In the long run and by itself the defensive cannot, of course, lead to a final attainment of the command of the sea. But it can prevent its attainment by the other side,...The real lesson of the war is...that we should note the supreme necessity and difficulty of crushing it down before it has time to operate its normal effect.⁴¹

He warned, however, that for such campaigns to be fully effective, they should be conducted with verve and imagination; their full potential could only be realised through 'a naval defensive, keeping the fleet actively in being—not merely in existence, but in active and vigorous life'. The defensive, he thought, was not the antithesis of the offensive, but its complement. A defensive in one place could make possible an offensive in another. Too many British admirals, he thought, failed to realise that there was something between attack and retreat. This was partly because some navies gave the naval defensive a bad name by carrying it to extremes and being too passive.⁴²

In some ways there is an analogy between the fleet-in-being approach and the principles of guerrilla warfare. Even Mahan thought an active fleet-in-being strategy could yield considerably more useful results than either accepting battle with a superior enemy and losing, on the one hand, or letting the fleet rot at anchor, on the other.

Therefore the aim of the weaker party should be to keep the sea as much as possible; on no account to separate his battleships, but to hold them together, seeking by mobility, by infrequent appearances, which unaided rumour always multiplies, to arouse the enemy's anxieties in many directions, so as to induce him to send off detachments; in brief, to occasion what Daveluy calls a 'displacement of forces' unfavourable to the opponent. If he made this mistake, either the individual detachments will be attacked one by one, or the main body, if unduly weakened.⁴³

Castex linked the naval defensive to his concept of *manoeuvre*, 'in essence, of avoiding a decisive battle while unceasingly harassing the enemy by limited offensives wherever and whenever one finds a favourable opportunity.'⁴⁴

The activities of the German Navy through the first half of the twentieth century illustrates what an intelligent fleet-in-being/naval defensive can achieve strategically. The superiority of the British Grand

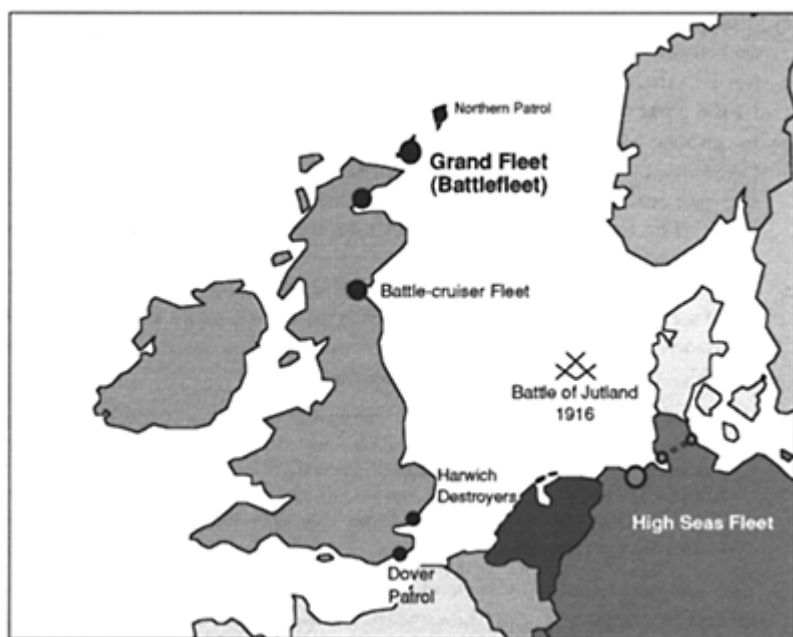


FIGURE 6.2 The North Sea Theatre of Operations, 1916

Fleet to the German High Seas Fleet in the First World War was such that even the most aggressive German commanders were loath to accept battle except in the most favourable circumstances. The gap between the two was even greater in the Second World War, and the German naval command was correspondingly yet more cautious. Even so, an inferior fleet was found to confer important strategic benefits in both conflicts.

- In peacetime, the mere existence of a powerful, if necessarily second-best, battlefleet constrained Britain's freedom to act as it might otherwise have done *in peacetime*. This was the idea behind the celebrated 'Risk Theory', first openly stated in Admiral Tirpitz's Naval Law of 1900. The notion was that the German fleet should be strong enough to threaten the superior British fleet with such damage that Britain would feel dangerously exposed to further threats from elsewhere. Knowing their long-term strategic consequences, Britain would therefore be deterred from using her naval superiority to pursue policies inimical to German interests. Germany wanted 'a sea force which will compel a sea power of the first rank to think twice before attacking our coasts'. In fact, the policy did not work: the British were so alarmed by the German (naval) threat that they took steps to settle their differences with the Russians and French, and the 'other threats' Tirpitz relied on consequently disappeared. Even so, the risk theory was an interesting attempt to use an inferior fleet as an indirect political defence of what apparently could not be safeguarded by direct military means.⁴⁵
- In the First World War, the German fleet was too strong for the British to impose a close blockade. Their more distant variety allowed the Germans to make limited use of the North Sea, thereby providing German surface-raiders and U-boats with some access to the open ocean. The latter's attack on British merchant shipping could have been a war-winner.
- In the First World War, the Germans' concept of operations was to avoid a main fleet encounter but actively to whittle away at British naval superiority until the odds made acceptance of a central battle more sensible. Accordingly, the policy was that:

The Fleet must strike when the circumstances are favourable; it must, therefore, seek battle with the English Fleet only when a state of equality has been achieved by the methods of guerrilla warfare...The Fleet must therefore hold back and avoid actions which might lead to heavy losses. This does not, however, prevent favourable opportunities being made use of to damage the enemy.⁴⁶

The climactic Battle of Jutland was an attempt to do this. As things turned out neither it, nor the concept of operations it served, worked in the end—but it might have done.

- In the meantime, the German strategy made it difficult for the British to concentrate their forces. They had to maintain their blockading forces in constant readiness as they would never have much warning of when the Germans would come out. This meant those assets could not be elsewhere doing things that might be more strategically useful. Much of Britain's destroyer force had to be kept with the Grand Fleet rather than devoted to the defence of its hard-pressed shipping. According to Admiral Scheer, the active existence of the High Sea Fleet meant 'the English Fleet stayed far north and did not dare to attack our coast and stamp out the U-boat danger at its source'.⁴⁷
- In the Second World War the odds for the German fleet were worse still. Instead, Admiral Raeder tried to make the most of his limited assets by a more passive version of the fleet-in-being approach:

Enemy naval forces, even if inferior in strength, are only to be attacked if this should be necessary to achieve the main objective. Frequent changes in the operational area will provide uncertainty and delays in the sailing of the enemy's shipping, even if no material success is achieved. The temporary disappearance of German warships in remote areas will add to the enemy's confusion.⁴⁸

The first-class battleship *Tirpitz* in its Norwegian fjord forced the British to protect each convoy to Russia in strength, and exerted a nuisance value out of all proportion to its actual capacity. Churchill summed it up well: 'It exercises a vague general fear and menaces all points at once. It appears and disappears causing immediate reactions and perturbations on the other side.'⁴⁹ These reactions and perturbations meant that considerable naval forces were anchored to northern waters which could otherwise have been serving useful purposes elsewhere.

Not everyone was persuaded by all this, however—especially after the First World War. One British commentator, Captain Bernard Acworth, was scathing about the whole concept, in terms strongly reminiscent of those who thought that England's safety in 1690 owed more to de Tourville's ineptitude than to Torrington's insight. The British had been contaminated by the defensive heresy despite their superiority:

A fleet-in-being, a fleet of great material superiority, was to be regarded as an acceptable substitute for a decisive victory at sea...safety first became, perhaps for the first time in England's maritime history, a naval doctrine of

Instead of following their own traditions, the British skulked about and overreacted to the menace of torpedoes and mines. For this reason, the German Navy's defensive campaign was more successful than it should have been. By extension, the conclusion was that naval defenses would only work when the stronger side allowed them to.

They have often been resorted to, none the less, and not merely by small navies with little alternative but by great navies too. Indeed, Admiral King's concept of operations for his fast fleet carrier force in the Pacific campaign of 1942 is an excellent example of an active fleet-in-being approach leading eventually to an increasing capacity to control the sea. At the approach to the Battle of Midway, for example, Admiral King instructed Admiral Nimitz:

Chiefly to employ strong attrition tactics and not, repeat NOT, allow our forces to accept such decisive action as would be likely to incur heavy losses in our carriers and cruisers.⁵¹

Nimitz accordingly engaged in a campaign of 'offensive hit-and-run tactics to keep the Japanese off-balance while the United States remained on the strategic defensive, building up its fleet strength to the point when it could assume the offensive'.⁵² The ultimate success of this campaign suggests that an active fleet-in-being strategy would

seem to offer the outnumbered fleet better prospects than either complete passivity or the kind of naval death-ride against a superior foe that the High Seas Fleet was rumoured to have been contemplating in 1918.

6.8 THE FLEET BLOCKADE

Fleet Blockade: Purposes

Historically, the fleet blockade has often proved an effective response by a stronger navy to a weaker opponent's adopting a fleet-in-being approach. The objectives of the fleet blockade were military and so it ought not to be confused with an economic blockade, the intention of which was to cut off the enemy's trade or deny him essential supplies. The distinction remained, even though the same ships could be executing both types of blockade at the same place and the same time—as, for instance, in the War of 1812 when a British blockade was intended to choke off all American trade *and* to stop US commerce raiders from reaching the open ocean.

The general military object of the fleet blockade was to prevent the enemy interfering in a substantial way with the blockading navy's capacity to use the sea as it wished. If the enemy was thus neutralised, the blockading navy would effectively be in command of the sea behind the blockade line; and surplus ships not actually involved in the blockading operation would be able to exercise that command.

As far as Mahan was concerned, the true station of the British fleet in the French Revolutionary Wars 'was before the hostile ports and as close to them as may be'. This was the first and main line of defence of Britain's maritime interests, and the most direct route to the attack of the enemy's. Mahan went on:

As in all military campaigns, the front of operations of a powerful fleet should be pushed as far towards the enemy as is consistent with the mutual support of the various detachments, and with secure communication with their base. By so doing, not only are the great national interests placed more remote from the alarms of war, but the use of the region behind the front of operations, in this case the sea, is secured to the power that can afford to maintain its fighting line close to the enemy's positions.

Since this one fleet disposition would offer an effective indirect defence of all the blockading navy's maritime interests, Mahan argued, it was much more effective than trying to defend those interests directly, as he and many others thought the Royal Navy had mistakenly tried to during the War of American Independence. Instead, the British should have concentrated their resources at the decisive point—off the enemy's main fleet bases. Mahan therefore approved of the way the British Admiralty seemed to be approaching the coming war with Germany. 'The British fleet is concentrated in the North Sea', he wrote. 'There it defends all British Interests, the British islands, British commerce and the colonies; and, offensively, commands Germany's commercial sea

routes.' Moreover, a blockade conferred one overwhelming advantage—knowing where the enemy was. It is hard to exaggerate the importance of this in naval warfare.⁵³

Another fundamental advantage of the fleet blockade is that it may well prevent a dispersed adversary from concentrating his forces. Mahan made the point that the Royal Navy had often found itself in conflict with an enemy or an alliance whose naval assets were split between several bases or countries—and sometimes the sum total of those assets was equal or superior to Britain's. There was, therefore, an urgent need to prevent the enemy concentrating his forces and so being able to mount significant operations against British colonies or Britain itself.

The strength of the British strategy lay not in hermetically sealing any one port, but in effectually preventing a great combination from all the ports. It was essential to Bonaparte not merely that his scattered squadrons should, one at a time and another at another, escape to sea, but that they should do so at periods so ordered, and by routes so determined, as to ensure a rapid concentration at a particular point. Against this the British provided by the old and sound usage of interior positions and lines.

In a justly famous passage, Mahan celebrated the effectiveness of this policy:

Never in the history of blockades has there been excelled, if ever equalled, the close locking of Brest by Admiral Cornwallis, both winter and summer, between the outbreak of war and the Battle of Trafalgar.... They were dull, weary, eventless months, those months of watching and waiting of the big ships before the French arsenals. Purposeless they surely seemed to many, but they saved England. The world has never seen a more impressive demonstration of the influence of sea power upon its history. Those far distant, storm-beaten ships; upon which the Grand Army never looked, stood between it and the dominion of the world.⁵⁴

Close and Distant Blockade

The reference to 'close locking' in this last quotation is significant in that maritime strategists usually distinguished between the 'close' blockade and the 'open' or 'distant' blockade. Captain Stephen Roskill put it this way:

If we keep the fleet more or less permanently off the enemy base, the blockade is said to be of the 'close' type: but if it watches enemy activities from a distance, cruising periodically off the base and exerting only a general control over the local waters, it is said to be of the 'open' type.⁵⁵

The difference between the two was a matter of degree and indicated by a number of things in addition to the blockading squadron's proximity to the enemy base: one indication was often thought to be whether these squadrons replenished on station; another, pointed out by Corbett, was the degree of 'certainty of immediate contact' when the enemy came out. Both kinds, though, had their advantages and disadvantages.

The special advantages of a *close blockade* were:

- Greater levels of certainty in knowing where the enemy was and what he was doing. The more distant the blockade the less security and control it afforded. Accordingly, if some really important maritime enterprise was about to be attempted (such as an amphibious invasion), it might make real sense to impose a close blockade temporarily, reverting to a distant blockade when it was over.
- The experience of the Soviet Baltic Fleet in the Great Patriotic War showed that a fleet confined to harbour in this way tended to deteriorate rapidly. Opportunities for sea training were greatly reduced, morale declined, fleet assets got stripped away for other military purposes.
- If the object of the blockade was to seal the enemy into his ports, then a distant blockade was a risky enterprise since it inevitably gave a determined enemy more chances to slip out. A close blockade on the other hand could mean, as Napoleon complained, that the French, as the blockaded party, could not put a cockle boat to sea without its being pounced on by English men-of-war. Admiral Hawke instituted such a blockade off Brest in 1758–59. The U-boat campaigns of both world wars would have been profoundly different had it been possible for their bases to have been blockaded like this.

On the other hand, an *open or distant blockade*:

- Avoided the extreme wear and tear of a close blockade. It was less demanding in that ships could return to base to replenish. There was less likelihood of the fleet's fighting power declining (for example, by crews becoming less healthy or their ships collecting so much marine growth that they became slower). Sometimes close blockades collapsed under the strain. The weather was often a major factor in this.
- Because close blockades could absorb so many resources in this way, distant blockades reduced the ability of the weaker blockaded fleet, simply by pursuing a policy of masterly inactivity in its own harbours, to inflict steady damage on, and occupy the attention of, more ships (ships-of-line and 'cruisers', the latter always in short supply anyway) than it could hope to incapacitate otherwise. By this means, an outnumbered fleet could 'contain' a superior opponent and enforce upon him 'a disproportionate expenditure of force, to the detriment of his power to take offensive action and to defend his trade'. Trying to impose a close blockade, in other words, might make an enemy's passive fleet-in-being strategy more effective than it deserved to be. A distant blockade, on the other hand, meant there was less chance of this.⁵⁶
- If the object of the exercise was not so much to stop the enemy coming out but to encourage him to do so, so that he could be beaten in battle, then a distant blockade was probably better than a close one. Richmond made the point that close blockades rarely forced an enemy to sea: 'In no case in all the many wars at sea in which an enemy has been forced to keep under the shelter of the defences of his ports has a blockade forced him to sea to fight. Neither Spain, Holland, France or Germany, suffer though they did from pressure at sea, sent their fleets to sea to fight the superior forces which were the cause of that pressure.'⁵⁷
- Distant blockades made sections of the blockading fleet less vulnerable to sudden ambush and other forms of attrition because they were further away from the enemy's main bases. The advent of submarines, mines and torpedo-boats (together with the

extra difficulty of sustaining coal or oil fired ships on station when compared with sailing ships), led the Royal Navy to abandon the close blockade just before the First World War—to the disappointment of the Germans who had hoped to exploit it as a means of ‘equalising’ the British.

Fleet Blockades in Practice

For all the above reasons, the British blockaded the North Sea in the First World War. The southern half of the North Sea became a kind of naval no man’s land.

If the Germans chose to cruise about in this area, they took the chance of being cut off and engaged by the British forces, whose policy it was to leave their bases from time to time for what Sir John Jellicoe in the Jutland Despatch described as ‘periodic sweeps through the North Sea’.... Thus for the old policy of close blockade was substituted a new one, that of leaving the enemy a large field in which he might be tempted to manoeuvre: and it had this value, that should he yield to the temptation, an opportunity must sooner or later be afforded to the British Fleet of cutting him off and bringing him to action. Meantime, he was cut off from any large adventure far afield. He would have to fight for freedom.... Thus no naval battle could be expected unless...the weaker wished to fight, or was cornered or surprised.⁵⁸

If, as in most other distant blockades, the British fleet blockade of the First World War was partly intended to lure its adversary out to destruction on the high seas, it failed. But it substantially succeeded in its other great purpose, the protection of maritime interests ‘behind the line’. The German surface fleet was effectively neutralised. It could not operate outside the North Sea, and so British interests in the oceans beyond were substantially secured from significant surface attack. But, all the same, neutralisation by distant blockade did not provide total protection. The enemy surface fleet could still operate, however gingerly, inside the North Sea, sometimes with embarrassing effects for the British. Probably more to the point, German submarines could still slip out in sufficient numbers to attack British shipping behind the blockade with near-devastating consequences. It was because they were conscious of the imperfections of the type of blockade then in operation that so many senior British naval officers of the period strove so hard to achieve a central decisive victory over the German fleet at sea. And it was because they knew that, bad as it was, the naval situation could be so much worse, that the German Navy strove to avoid this outcome.

Many of these trends continued into the Second World War. Blockading operations became even more closely integrated into and indistinguishable from, the rest of the fleet’s activities. They became more multi-dimensional too, with maritime airpower in particular playing an increasingly important role in the potential or actual detection and destruction of blockading and blockaded forces. Finally, technology and strategic circumstances conspired to give blockaded navies (mainly the German and Italian fleets) more freedom and more sea room than they had before. But even though the practice may have had such difficulties as these, the purpose of blockade remained essentially the

same. In this war, as in many of its predecessors, blockade provided the dominant navy with the best means of containing an inferior, though potentially dangerous, enemy, and so improved its chances of being able to use the sea in relative security. But, as always, it offered a degree of protection less complete than the wholesale destruction of the enemy's main forces would have done.

Fleed Blockade: Modern Theory and Practice

During the Cold War, blockade appeared in the guise of determined Western attempts largely to contain Soviet naval forces north of the northern gaps between Greenland-Iceland-United Kingdom and Svalbad-Norway by what became known as 'barrier operations'. The idea was that Soviet naval forces, ships and especially submarines and long-range aircraft, would either be stopped or severely 'attrited' in their presumed intention to break out into the North Atlantic by means of underwater detection systems, submarines, mines, surface ships, carriers and aircraft concentrated in the gaps. This was a form of distant blockade in all but name. Admiral Stansfield Turner supplied some of those other names:

Sortie control meant

bottling up an opponent in his ports or on his bases...today's blockade seeks destruction of individual units as they sortie. If we assume an opponent will be in control of the air near his ports, sortie control tactics must primarily depend on submarines and mines...a most economical means of cutting off a nation's use of the seas or ability to interfere.

Choke point control was an alternative technique: 'Sometimes, the best place to engage the enemy is in a geographical bottleneck through which he must pass.' The advantage of choke point control is that it can use units which would not survive for long in sortie control operations nearer the enemy's bases.⁵⁹

Soviet naval theory focused on the mirror-image of this approach—how to get through a blockade. The need for the Soviet Union to make 'her break through to the sea' so as to defeat encirclement and wield her scattered fleets as a cohesive whole was a constant if implicit theme of Admiral Gorshkov's writings. This concern echoed Russia's historic difficulty in gaining access to the open ocean. Western navies aimed to ensure this remained a problem.⁶⁰

From time to time, though, dissatisfaction was expressed in Western maritime circles about the necessary limitations of this distant blockade. It seemed to leave the strategic initiative to the Soviet Union, and might make the Soviet General Staff think that the waters off northern Europe or the north-west Pacific were a Soviet lake. Worse still, forward allies such as Norway, Iceland, South Korea or Japan might come to this conclusion too, and gradually adopt different security policies in response. This lay behind the occasional attempts to move the blockade forward through the gaps, especially in the late 1940s and in the 1980s, the era of *The Maritime Strategy*. The idea of Western maritime forces taking up positions off northern Norway to attack the Soviet Northern Fleet in and off its lair in the Kola peninsula attracted much agitated discussion about the

operational pros and cons that was distinctly reminiscent of the historic debate about the balance to be struck between close and distant blockade, described earlier.⁶¹

These issues appeared again, if on a much smaller scale, in the Falklands campaign of 1982. During the diplomatic negotiations that preceded the second stage of the war, there was much discussion about both sides 'withdrawing' their forces three or four hundred miles from the disputed islands. Not unnaturally, the British rejected the Argentine contention that they should thus deploy their forces for an indefinite period in some of the world's worst weather conditions, maintaining a kind of (very) distant watching brief over the Falklands while the diplomats sorted things out and the Argentine fleet stayed in the comfort of its own ports. When the conflict re-started, the sinking of *General Belgrano* 'turned out to be one of the most decisive military actions of the war' because 'the Argentine Navy—above all the carrier—went back to port and stayed there. Thereafter it posed no serious threat to the success of the task force'. The British decided against taking the war into Argentine waters, 'so our submarine commanders were left prowling up and down the Argentine 12-mile limit'.⁶² The islands themselves could be less closely blockaded and a number of small vessels and aircraft from Argentina continued to get through for a time. Despite such limitations, this was close blockade in all but name—and so were Coalition operations against the Iraqi Navy in 1991. The use of new labels for blockade and counter-blockade operations should not conceal the fact that these are traditional naval activities with familiar aims, problems and prospects.

Chapter Seven

Exploiting Command of the Sea

The real reward for having command, or control, of the sea is the capacity to use it for your strategic purposes and to deny its use to any adversary. Broadly, there are two sets of strategic uses: the capacity to project military power ashore, and to use the sea as a means of transportation. Each has its mirror image—preventing someone else from using the sea against you for either purpose.

7.1 MARITIME POWER PROJECTION: DEFINITIONS

The ability to project military power ashore suffers from the absence of a consistent vocabulary in maritime strategy. Competing words and definitions jostle to attract support: amphibious warfare, combined operations, land-sea operations, the projection of power ashore, overseas raids and invasions, attacks on territory from the sea. These all have strengths and weaknesses but none has won universal acclaim. ‘Power projection’ now tends to be the most widely used term, with a qualifying ‘maritime’ sometimes used.¹

Maritime power projection involves the use of sea-borne military forces directly to influence events on land. It ranges from substantial invasions to conquer territory, at one end of the spectrum, to minor nuisance raids and naval bombardments, at the other. Indeed, this less ambitious end of the spectrum merges almost imperceptibly with the more coercive forms of naval diplomacy to be discussed in Chapter 9. Maritime power projection varies considerably in purpose, effort and strategic impact.

For Corbett, maritime power projection is the ultimate justification for having navies, as we saw in Section 2.5² Gorshkov took the argument one step further. He pointed out that in the Great Patriotic War, as in so many others, ‘the goals of a war were achieved mostly by taking over the territory of the enemy’. Accordingly, the ability to influence campaigns ashore was for him the general culmination of the naval art, and by far the most productive way of using naval power:

Successful operations of a fleet against the shore brought a better result than the operations of fleet against fleet. In the first case the fleet solved a direct ‘territorial’ task, whereas in the second, victory over the enemy’s

fleet merely created the pre-requisites for the later solution of territorial tasks.³

The use of the word 'direct' is important too. This elevated 'operations against the shore' above the attack/defence of sea lines of communication because in the latter case the operational and strategic impact of seapower was only *indirect*.

In his 1947 Report to the Secretary of the Navy Fleet, Admiral Chester Nimitz, US Navy, put the whole thing very forcefully:

The final objective in war is the destruction of the enemy's capacity and will to fight, and thereby force him to accept the imposition of the victor's will. This submission has been accomplished in the past by pressure in and from each of the elements of the land and sea, and during World War I and II, in and from the air as well. The optimum of pressure is exerted through that absolute control obtained by actual physical occupation. This optimum is obtainable only on land where physical occupation can be consolidated and maintained. Experience proves that while invasion in some form—of adjacent sea areas, covering air spaces, or enemy territory itself—is essential to obtain decisions in war, it is sometimes unnecessary to prosecute invasion to the extent of occupying a nation's capital or other vital centres. Sufficient of his land, sea, or air territory must be invaded, however, to establish the destructive potential of the victor and to engender in the enemy that hopelessness that precedes submission. The reduction of Japan is a case in point.⁴

The *extent* to which maritime power projection can be decisive tactically, operationally or strategically depends on the circumstances. Sometimes it is merely a strategic 'enabler'—something which provides the conditions in which land and air forces can go on to win the war. The Allied ability to land, sustain and support the invasion of Normandy in June 1944 comes into this category. The Allies were able to force their way ashore by means of the world's biggest amphibious operation, establish themselves, break out and then begin the long advance to Paris and, ultimately, to the heartland of Germany. The further they got from the sea, the more indirect became their maritime support. Sometimes, on the other hand, maritime power projection can be decisive, even executive, in its own right. If we make the uncontroversial assumption that Japan eventually would have been defeated in due course through the cutting of its crucial maritime communications, even without the dropping of atomic bombs on Hiroshima and Nagasaki, then this would apply to the Pacific War. Significantly, the more maritime the orientation of a country, the more decisive or executive maritime power projection against it can be.⁵

The early evolution of thinking about maritime power projection was largely covered in Section 2.5 through discussion of the views of Callwell and Corbett. It was also a major preoccupation of both American and Soviet naval thinkers during the Cold War era, when it was labelled 'operations of the fleet against the shore', in the Soviet lexicon, or 'the projection of power ashore', in the American. Both categories are notably comprehensive. Stansfield Turner produced a spectrum of projection which ranged from nuclear strike at one extreme to preventative presence at the other. Intermediate stages

were: tactical air, naval bombardment, amphibious assault and reactive presence. Although Gorshkov's version of this is the same in many respects, he largely left out 'presence' roles, but instead specifically included operations against or in support of military shipping which the Americans tended to include in their sea control mission. The following, though is common ground:

power projection in conventional warfare connotes the Navy's ability to launch sea-based air and ground attacks against enemy targets onshore. It also involves naval gun bombardment of enemy naval forces at port and installations. It is meant to enhance the efforts of US and Allied land-based forces in achieving their objectives.⁶

Despite occasional and so far unfounded periods of doubt, the navies of the world have continued to stress the importance of maritime power projection. Especially in the days before the Soviet Navy became a sea control competitor, the US Navy tended to regard projection as its main mission. Gorshkov was well aware of the advantages the Americans gained from this in the Korean and Vietnam Wars, and somewhat wistfully catalogued their efforts in bombing, naval gunfire support, and the attack of enemy supply lines. No doubt this helps explain the later development of his own navy's amphibious capabilities, although these never approached the levels achieved by the United States.⁷

7.2 MARITIME POWER PROJECTION: AIMS

Maritime power projection can take many different forms, and these will usually be determined by their purpose. The same exercise in maritime power projection can, moreover, serve several different purposes simultaneously, although this may prove dangerous. Amongst the most common aims of maritime power projection are:

Determining the outcome of a conflict

The Pacific War comes into this category. A sequence of maritime battles and campaigns took the United States and its allies across the central and south-western Pacific, threatening Japan itself with mass invasion. The Falklands campaign of 1982 is another example. British maritime power effectively isolated the disputed islands from the mainland, and projected amphibious power ashore, thereby producing a correlation of forces (in quality if not quantity) which made the Argentine defeat inevitable. The defining characteristics of this type of maritime power projection are the direct impact of sea-based support, even after the conclusion of the amphibious phase of the operation, and the determining effect of victory on the conclusion of the war.

Opening new operational fronts

The Gallipoli campaign of 1915 is an example of a campaign intended to improve the strategic situation by opening a new, more advantageous area of operations. The Navy,

supported by the Army, by-passing the bulk of Turkey's forces to storm through the narrows, reduce Constantinople and paralyse Turkey in one fell swoop was arguably the best idea of the First World War.⁸ Practice fell far short of the concept, however, and the modern use of maritime power projection really only came into its own in the Second World War. As Bernard Brodie observed, 'The Second World War has seen a succession of sea-borne invasions on such a scale as the world has never before witnessed.' They included the Norwegian campaign (1940), the Japanese operations in the Philippines and the East Indies (1941–42), the landings in the Mediterranean area (1942–44), Normandy (1944), the sequence of Australian-American landings in the south-western Pacific and the US Navy's amphibious advance across the central Pacific. These were all large-scale operations intended to have strategic effect.⁹

Direct support of the land forces

According to Admiral Gorshkov, there were some 600 landing operations in the Second World War. They were mostly successful and mostly in direct support of the land forces. On the Eastern Front, this was the essential task of both the German and the Soviet Navies. As Gorshkov put it, 'our naval science came to the conclusion that the outcome of the war would be decided on land, and therefore the Navy would have to carry out missions in the war stemming from the missions of the ground forces'.¹⁰ Naval forces were expected to provide fire support, put ashore landing parties, defeat the opposition's sea and river forces, get troops across water barriers, transport military supplies and interfere with the enemy's communications. These tasks were by no means new. They were a classic part of every land campaign which either depended on a sea-borne assault or had a maritime front. The Soviet Navy developed the concept of the 'desant' landing. Mostly at the tactical level, these were small-scale, often improvised, localised operations (such as those along the north Soviet coast and in the Black Sea) in which Soviet forces were continually able to outflank German defensive positions from the sea. These operations kept up the momentum of friendly land forces or slowed an advancing enemy. Direct support operations could also sometimes take the form of combat extractions—such as Dunkirk (1940) or Crete (1941).

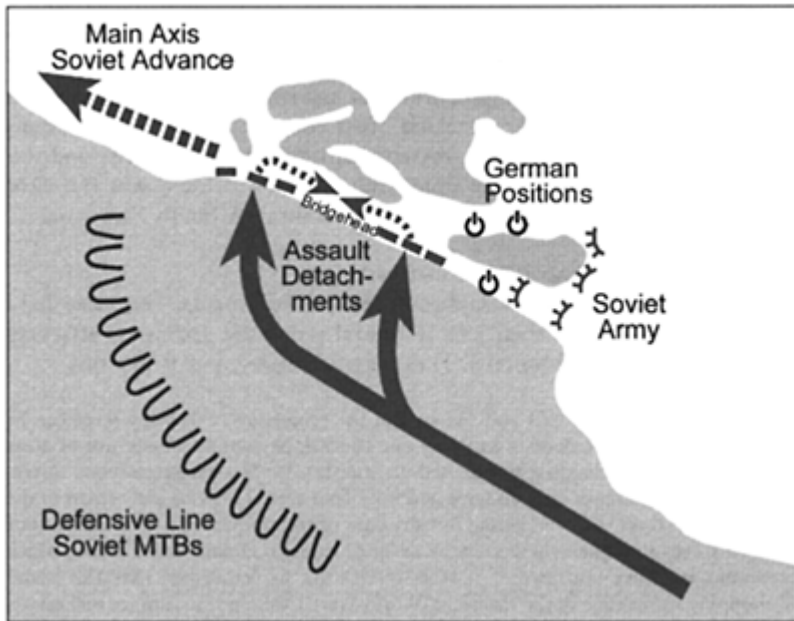


FIGURE 7.1 A Soviet Desant Operation

Force displacement

Corbett was particularly interested in the idea that landings, or threatened landings, from the sea could have a strategic effect out of all proportion to their size through ‘the containing power that lies in combined expeditions, and of the disturbing influence which a fleet properly used can exercise upon Continental strategy’. A sequence of such raids later caused Napoleon, then heavily engaged in his Austrian campaign, much aggravation: ‘With 30,000 men in transports at the Downs, the English can paralyse 300,000 of my army, and that will reduce us to the rank of a second-class power.’ There were distinct echoes of this in the Gallipoli campaign of 1915, the Norway campaign of 1940, the thinking behind *The Maritime Strategy* in the 1980s and the Gulf War of 1991.

In the eighteenth century the British considered force displacement a way of indirectly helping develop their strength at sea. Said the Duke of Newcastle:

France will outdo us at sea when they have nothing to fear on land. I have always maintained that our marine should protect our alliances on the Continent, and so, by diverting the expense of France, enable us to maintain our superiority at sea...¹¹

Economic warfare

Up to the end of the Second World War maritime power projection was seen as a way of seizing or attacking other countries' colonial possessions and sources of overseas revenue, thereby damaging their prosperity and war revenue while correspondingly improving one's own. Such was the clear aspiration behind Japan's 1941–42 campaigns through South-East Asia.

Seizing or attacking naval bases and ports

By means of amphibious assaults or sea bombardments, countries have often sought to reduce their enemy's naval power by seizing or attacking their bases. In 1976, Admiral J.Holloway, US Navy, put it like this:

the use of carrier aircraft and Marines in the projection of military force can be an absolute requirement in insuring our control, or continued safe use of areas of the high sea essential to our national needs...Marine amphibious forces, supported by carrier air, can seize and hold land areas either to deny them to the enemy for their use in indicting our sea lines of communication, or to permit our own forces to exploit these areas as advance bases to attack enemy forces which would interdict our own...It is interesting to remember that the island hopping campaigns in the Pacific in World War II were not to acquire real estate, but for the sole purpose of seizing advanced bases to gain control of the sea approaches to the recovery of the Philippines and the invasion of Japan.¹²

Forcing an inferior adversary to fight

Threatening something that was so strategically important to an adversary that he was bound to fight to defend it has often seemed an effective means of luring a reluctant adversary, otherwise content with a naval defensive of some sort, into battle. The British had such hopes in various of their schemes for the attacks on the German coast in the early part of the First World War, and so, in a modified way, did the Germans with their east-coast raids.

Political coercion

Attacks from the sea, most often sea bombardments, but occasionally amphibious assaults, have often to be seen essentially as a form of naval diplomacy—a means of influencing the behaviour of people ashore. The deterrent posture of the Royal Navy through the nineteenth century, based in large measure on its capacity to bombard ports such as Brest, comes into this category, as does the US Marine Corps operation in the Lebanon in 1958 and the US Navy's attacks on Libya in the 1980s. This form of maritime power projection is discussed further in Section 9.6.

7.3 AMPHIBIOUS OPERATIONS

‘We have landed in ill time: the skies look grimly,
And threaten present blusters.’

Shakespeare, *A Winter’s Tale*, III/3

Types of Amphibious Operation

Amphibious operations are the main subset of maritime power projection. They come in four varieties:

- *The amphibious assault* where the aim is to get onto a hostile shore, stay there, build up combat power and establish a new front, maybe materially to alter the course of a war.
- *The amphibious raid* where the intention is to establish a temporary lodgement to achieve a tactical or operational aim before making a planned withdrawal.
- *The amphibious withdrawal* The ability to conduct a fighting extraction is the ultimate means of boosting the confidence of an expeditionary force ashore. As we saw in Section 2.5, Corbett praised the success of the evacuation from Gallipoli in glittering terms, pointing out how much it had shown that the necessary lessons had been learned.¹³ Withdrawals can, moreover, lead to re-insertions elsewhere and may be seen as a means of exploiting the strategic mobility offered by command of the sea.
- *Amphibious feints and demonstrations* are intended primarily to deceive an adversary and to tie down his forces in order to improve the correlation of forces elsewhere.

All four types of amphibious operation may be contested to some degree; ones that are not are often known as ‘administrative landings’. Clearly then, the difficulty of amphibious operations depends on their form and aspiration—especially in relation to the objective and the quality of the opposition. A brief review of the Gallipoli and Normandy landings of 1915 and 1944 suggest there to be some ‘norms’ in these most ambitious instances of maritime power projection that would apply to many of their lesser forms too. Although many of the ‘lessons’ that can be extracted from these landings are of the sort that can be derived from any military operation to which the normal principles of war apply, the focus here will instead only be on those that relate to the special, maritime characteristics of amphibious operations.

Indeed, these characteristic requirements are so special and demanding that failure to give them sufficient attention usually makes defeat inevitable. This was certainly the conclusion of Charles Callwell, especially in regard to the failure at Gallipoli:

There was no precedent to point to and no example to quote. The subject had been studied tentatively and as a matter of theory, and certain conclusions may have been arrived at, but few works treating of the art of war concerned themselves with the matter at all, and the problem involved had hardly received the consideration to which it was entitled either from the point of view of the attacking or the defending side. Still, all soldiers who had devoted attention to the subject were in agreement on one point.

They realised that an opposed landing represented one of the most hazardous and most difficult enterprises that a military force could be called upon to undertake...¹⁴

In 1897, Colonel Furse did make use of previous experience to try to open the subject up through the exploration of issues such as command and control arrangements, the selection of landing sites, the provision of sufficient transports, the build up of a base ashore and the likely impact of modern technology. He touched on the special problem of 'contested' landings but, despite his pioneering efforts, there was much justice in Aston's verdict of 1914:

Amphibious strategy, or the combined strategy of fleets and armies treated as a special subject has not yet received the attention which its importance deserves, and the Japanese have so far been the only exponents of the art on a large scale under the conditions of modern warfare.

Many key issues in the conduct of amphibious operations remained unresolved well into the Second World War. For instance, as late as 1944, there was little in the way of abstract discussion, let alone agreement, on the balance that should be struck between 'surprise' and 'security'. At Normandy, the practical experience of the British led them to emphasise the first, that of the Americans the second, and the result was a flawed compromise. Command controversies still bedevilled British operations in the Falklands campaign of 1982. The 'norms' of amphibious warfare, in short, seem unfortunately to have been established more in the hard school of experience than through prior deliberation.¹⁵

What Amphibious Operations Require

Maritime superiority

At the very least, amphibious operations required what Corbett described as 'reasonable naval preponderance' and Furse as 'decided superiority' in the relevant area. Roskill declared, 'It is plain that the establishment of an adequate and effective zone of maritime control in the approaches to and the coastal waters off the disembarkation area is an absolute pre-requisite for success in this type of operation'. The task of navies was to 'cover' the force against hostile interception from the enemy main fleet as it crossed the sea. This cover would be 'full' if protection were the first priority; if not the cover might be merely 'general'. The 'squadron in charge of transports' would protect the force from more local and minor attack. These two functions should be kept separate: the covering fleet had to be left free for independent naval action, lest the enemy appear in strength.¹⁶

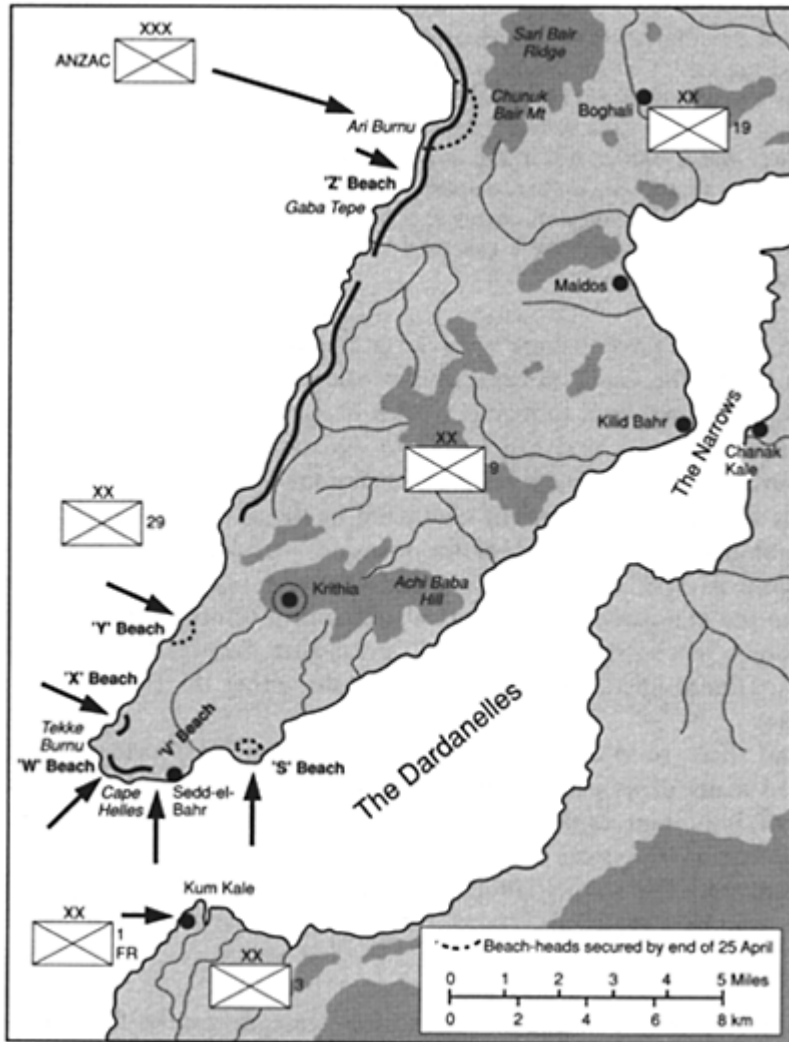


FIGURE 7.2 The Gallipoli Landings,
25 April 1915

Assured of basic security, the Navy should be able to convey the landing forces to the amphibious operations area, offer close support in getting them ashore, help them consolidate their position and sustain them with supplies and reinforcements until the operation ceased to be amphibious. In some circumstances, the Navy also offered a means of extracting or repositioning landed forces if the situation required it.

At Gallipoli, the author Compton Mackenzie (then a staff officer on General Hamilton's Staff) vividly encapsulated the soldier's dependence on the Navy at a moment

when the pressure of Turkish torpedo-boats and German submarines forced the Navy temporarily to abandon the forces ashore:

I saw them in full flight, transports and battleships, the *Agamemnon* seeming to lead the van. The air was heavy that evening and...the smoke of every ship was driven down astern, which gave the effect of a number of dogs running away with their tails between their legs. The sense of abandonment was acute. There was a sudden lull in the noise on the beach, as if every man had paused to stare at the unfamiliar emptiness of the water and then turned to his neighbour with a question in his eyes about their future here. It is certain that the Royal Navy has never executed a more demoralising manoeuvre in the whole of its history.¹⁷

Because the forces ashore were never able to break out of their restricted beach heads, the Gallipoli campaign remained amphibious throughout, and the Navy was required to maintain such hazardous support not for days but for months on end, and had finally to evacuate the landed forces in what was surely one of the most brilliant operations of the First World War. All of this depended on sufficient command of the sea. In 1944, the potential vulnerability to naval attack of the invasion armada, packed with soldiers, chugging its way across the English Channel explains the huge attention paid to the maintenance of near total sea control throughout the Normandy campaign. In the event, this was so great that the weather caused Allied shipping more losses and disruption than did either the German Air Force or Navy.

The sheer scale of the armada assembled for the Normandy landings amazed many of its participants and serves as a useful reminder of the fact that an important aspect of maritime superiority is simply to have the transportation resources (whether these are amphibious craft, ships taken up from trade, or simply landing facilities) to get men and supplies ashore in the numbers required.

Specialist skills and training

High levels of training and preparation were necessary for the task of shipping the Army over, disembarking them, offering military support and keeping them supplied. The lesson appeared to be that neither the skills nor the equipment for this specialised and demanding task could be improvised at the drop of a hat. This of course was equally true of the military side of the operation. Forethought was supremely necessary, declared Richmond:

For want of thinking ahead, expeditions have suffered and sometimes failed because the necessary means were lacking—bombarding vessels to assist the landings, adequate shipping to carry the army, properly designed landing craft, maps and charts of the localities, knowledge of the climate.¹⁸

‘Hitting the beach’ successfully depended on accurate and extensive knowledge of beach conditions. The Normandy landings followed years of intensive and extremely hazardous

beach surveys. Even so, navigational difficulties, the unexpected strength of the currents and the unpredictably high sea state combined to produce real difficulties especially off and near 'Omaha' beach. The US Rangers heading for the German battery at Point du Hoc were taken to the wrong headland; the leading units of the 1st and 29th Divisions were jumbled up on landing in a way that made cohesive attack impossible. The Duplex Drive tanks, struggling to head for their assigned church steeple landmarks against adverse currents, took the high waves at the wrong angle, were swamped and mostly sank, depriving the infantry of support as they landed.

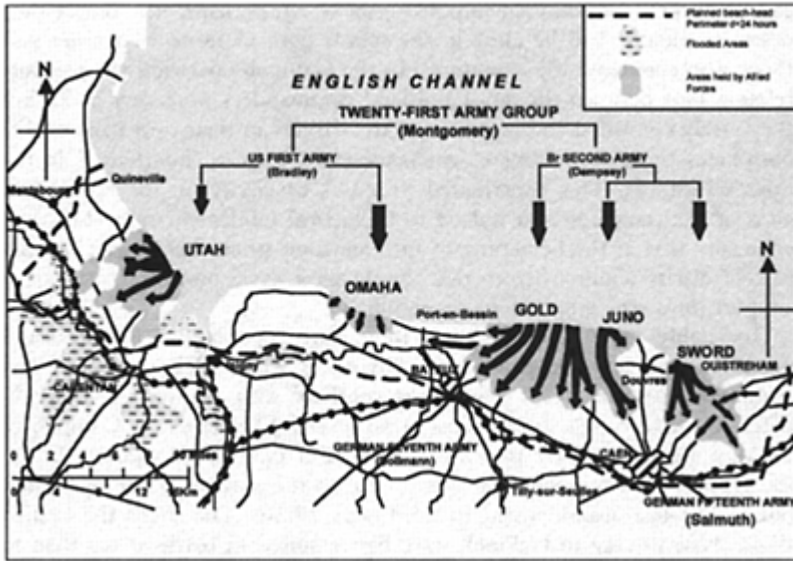


FIGURE 7.3 The Normandy Landings, 1944

At Normandy, the landing forces had months, sometimes years, of intensive specialist training behind them, which generally paid off handsomely. At Gallipoli, on the other hand, the landings of 25 April 1915 were only decided on shortly after the naval failure to force the straits on 18 March; everything was thrown together at the last minute, with few quite realising the scale of the problem they faced in preparing for a contested landing, 'one of the most hazardous and most difficult enterprises that a military force could be called upon to undertake'. In such circumstances, it is little short of amazing that the landing forces did as well as they did on 25 April. The lessons were learned and there were few significant difficulties in getting ashore in the follow-up Suvla Bay landings of 6 August 1915.

The difficulties of getting ashore may indeed so preoccupy both planners and the landing forces that insufficient attention is paid to the business of breaking out and developing success, which is usually the real point of the exercise. This is often said to be true of the Normandy landings.

Joint operations

It is particularly important that a landing be free from ‘the corrupting blight’ of inter-service frictions. The army and navy should operate, thought Corbett, as ‘two lobes of one brain, each self-contained and instinct with its own life and law, yet inseparable from the other: neither moving except by joint and unified impulse’. Above all, perhaps, ‘the object they desire to obtain shall be clear in the minds both of those who order and those who command the operation’. In the Gallipoli operation the personal relationships between the naval and land commanders were very good, but they rarely consulted and instead operated largely in their own spheres. On both sides there was extreme reluctance to be seen as ‘interfering’ in the other’s business. This contributed to a lack of clarity on the operational aims of the campaign and indeed to its tactical implementation. This was especially true at the beginning of the campaign when there was a distinct lack of clarity about whether this should be a naval operation with army support, or a true amphibious operation.

Inevitably, the services have their own operational agendas and procedures at every level of war. The army want total, maximum and permanent support. This sometimes conflicts with the navy’s desire to defeat the adversary’s naval forces at all levels. The retreat at Gallipoli of 28 May was inspired by an acute awareness of the tactical vulnerability of the great ships whose survival was crucial to the success of the operation, but looked like abandonment to the troops ashore. The shells the British ships chose to take to Gallipoli were better suited to battle at sea than to dealing with Turkish strong-points ashore. At Normandy, communications difficulties led to problems in inter-service cooperation (for instance, in arrangements for naval gunfire support of the troops ashore) but otherwise the operations were indeed effectively joint.

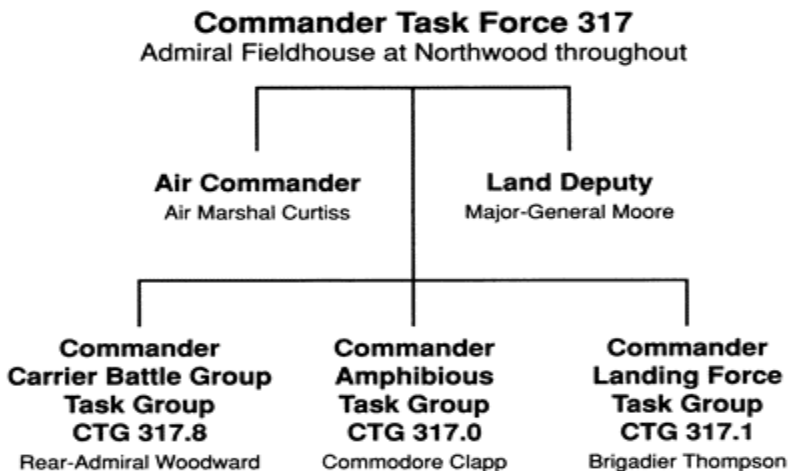


FIGURE 7.4 Command Organisation
at the Falklands, 1982

Corbett was quite proud of the fact that the two services retained their own command structure in theatre at Gallipoli. In principle, the British recognised the advantage of a single in-theatre commander but for a variety of reasons (including a lack of appreciation of the operational level of war) did not consistently put one in place until after the Falklands campaign of 1982. Problems in inter-service co-ordination was one of the reasons for the Bluff Cove disaster and contributed to the adoption of an operational-level joint force commander thereafter. Other countries have increasingly adopted this practice too.¹⁹

Surprise and manoeuvre

Surprise and speed of operation are particularly important as well, because the attacker would inevitably be dangerously exposed if the enemy knew where he meant to come ashore and could rush in reinforcements before the landing forces were able to consolidate. At Gallipoli, the Navy helped by providing a demonstration well to the north of the amphibious area and facilitated a temporary landing away to the south. The appalling 'security' of the operation as a whole meant that operational surprise was impossible but at least tactical surprise (as defined by the knowledge of which beaches, when) was in fact brilliantly achieved four times—the landings of 25 April, the follow-up Suvla Bay operation on 6 August and the two-stage withdrawal in December 1915 and January 1916. It was even better at Normandy, where operational surprise was achieved as well: for weeks after the landings the Germans thought the main landings could be coming in later in the Pas-de-Calais area and kept crucial reserve forces back, just in case.

The sea also offered a means of enabling the landing forces to avoid strong points, by putting them ashore in unexpected places and by taking advantage of the displacement effect described above. This was generally achieved both in Gallipoli and Normandy, except in some specific locations where the military strength of the defences was insufficiently appreciated (V and W Beaches, Omaha) or the topographical difficulties underestimated (Anzac Beach; Omaha).

Compensatory military-technological advantage

Simply because they do not have to be sea-portable, and have the time to prepare static defences, the defenders have a natural advantage over the landing forces. For this reason, many concluded before the First World War that mines, machine guns, the internal combustion engine and improved land communications would make contested amphibious operations much more difficult. The defenders would be able to respond much faster to surprise landings and would be much more effective relative to the landing forces when they did. The Official History of the Gallipoli campaign makes the basic point: 'while the defenceless troops scramble out of their boats, and struggle waist-deep in water, they can be shot down as easily, and almost as safely, as bottles at a fair'.²⁰ This simple truth was cruelly demonstrated at V and W Beaches when tiny numbers of Turkish defenders were able to inflict appalling casualties on the British as they waded ashore. To a large extent, this was also true of the first two attacking waves at Omaha.

The requirement to exploit military technology in order to even up the odds between attacker and defender was perfectly well realised, but at Gallipoli most attempts to do this failed. The *River Clyde*, for example, was an imaginative scheme to convert a merchant ship into an early form of amphibious assault ship, with a bow door, armour and forward-firing guns, but at V beach it signally failed to compensate for the intrinsic vulnerability of troops hitting the beach. It was the same at Omaha, where the solutions (heavy air and naval bombardment, amphibious 'Duplex Drive' tanks and combat engineers to remove the obstacles) did not work. The first missed, the second sank and the third were largely killed. Fortunately for the Allies, compensatory military technology (in the shape, for example, of 'Hobart's Funnies'—a variety of specialist tanks to deal with mines, strong-points, etc.) proved more effective on the other Normandy beaches. However, in all the Normandy landings the initial aerial and naval bombardments proved much less effective than had been hoped for.

Military technology has, none the less, been able frequently to deal with the intrinsic odds against landing operations, especially when in combination with the surprise factor and the displacement effects noted above. Of these, sea-based airpower has proved one of the most important levellers of the odds. Admiral Nimitz reported:

The development between World Wars I and II of naval aviation provided naval forces with a striking weapon of vastly increased flexibility, range and power. It spearheaded our Pacific attack. First, it swept the sea of all naval opposition. Then it became the initial striking weapon in the capture of Guam, Saipan and Iwo Jima.... In all these operations the employment of air-sea forces demonstrated the ability of the Navy to concentrate aircraft strength at any desired point in such numbers as to overwhelm the defence at the point of contact. These operations demonstrate the capability of naval carrier-based aviation to make use of the principles of mobility and concentration to a degree possessed by no other force.²¹

Even so, doubts about the extent to which amphibious technology could keep up with the increasing power of the defender continued—especially with the advent of nuclear weapons. Just after the Second World War, there were those who wished to sweep away the US Marines on the grounds that a small number of atomic bombs could destroy an expeditionary force as now organised, embarked and landed. 'With an enemy in possession of atomic bombs, I cannot visualise another landing such as was executed at Normandy or Okinawa'.²² Despite the success of the Inchon landings of 1950, large concentrations of ships and men were seen as simply too vulnerable for such operations against the nuclear powers or their immediate allies. The spread of land-based precision-guided munitions and the increasing mechanisation of the world's armies aggravated the problem. For this reason, there was a tendency to focus on the unopposed or 'administrative' landing.

The major navies of the Cold War era continued none the less to believe in the ultimate feasibility of contested landings—at least when their strategic importance was seen to justify the necessary investment. Admiral K.A. Stalbo, one of the Soviet Navy's leading strategic writers, stated in 1970,

We would stress that the basic reasons which force the warring sides to resort to amphibious landings [in the Second World War] have not only been maintained under modern conditions, but have been considerably enhanced. Because of this, amphibious landings have not lost their importance to the slightest degree.²³

The US Marine Corps maintained the faith as well and by the end of the 1980s, the concept of *operational manoeuvre from the sea* had arrived.

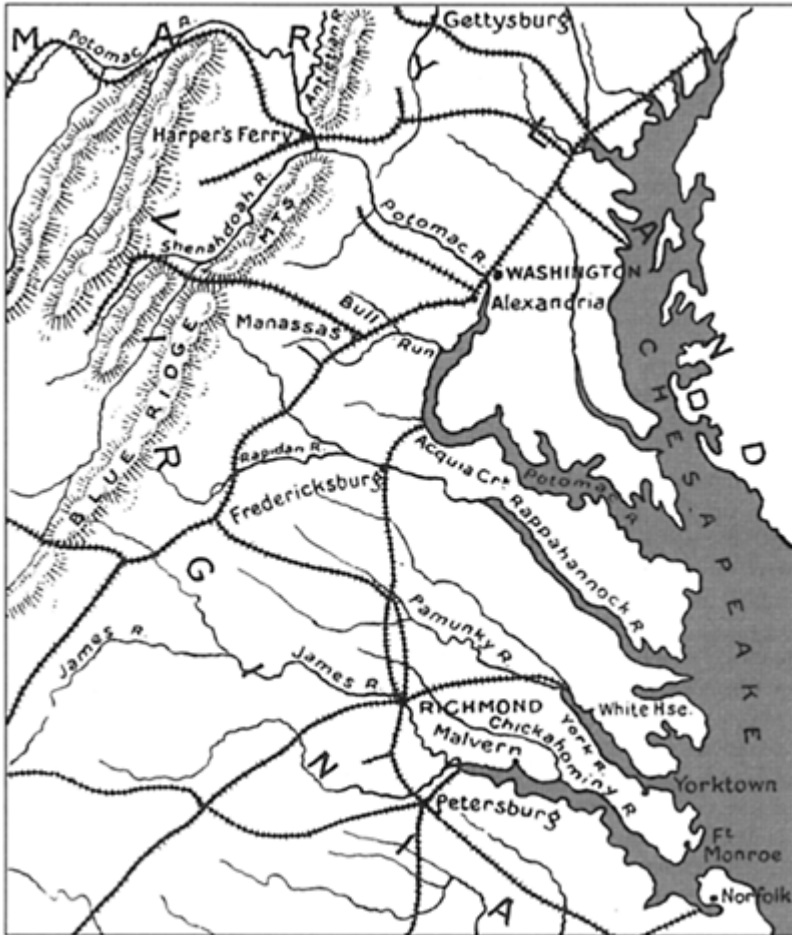


FIGURE 7.5 The Peninsula Campaign:
Strategic Setting

(Source: Callwell, 1996a [1903])

7.4 OPERATIONAL MANOEUVRE FROM THE SEA

The concept of operational manoeuvre from the sea (OMFTS) and its application to the Inchon landings of the Korean War was introduced in Section 2.7. In developing their thinking on OMFTS, the US Marine Corps took as a source of inspiration an early attempted application of such principles in the American Civil War—the Peninsula campaign of 1862—and sought to apply its lessons to the 1990s.

In 1862, the main forces of both sides were concentrated in the narrow area between Washington (the Federal capital) and Richmond (the capital of Virginia and of the Confederacy). On the Northern side, General George B. McClellan—young, able, extremely well-read in military history—came up with a brilliant idea. Instead of a costly, frontal assault on the Confederate forces (which he mistakenly thought were much stronger than his own), why not make use of the North's maritime supremacy to sweep round the Southern Army and launch a direct assault on Richmond? The whole idea 'was to leave the enemy where he was and fight him where he was not'. The Southern Army should be outmanoeuvred and fought on better terms. 'I have my mind actively turned towards another plan of campaign that I do not think at all anticipated by the enemy', he said. Attacking Richmond, he thought, was the best way of defending Washington.²⁴

In the event, the Confederates fell back a little while McClellan was making his plans, and so he shifted the landing point from Urbanna to Fort Monroe on the tip of the Virginia peninsula. While this increased the distance from Richmond to 75 miles, the change had a huge advantage in that the advance up the peninsula could be supported on both sides by the navy on the York and the James rivers. If McClellan's Army of the Potomac could get to Richmond before the Confederates had time to fall back and build sufficient defences, the war could be won in one glorious campaign.

The idea was certainly bold (and President Lincoln took some persuading to accept it) but McClellan was well aware that the British had used similar strategies in their assaults on Charleston and New York in the War of Independence and on Washington and New Orleans in the War of 1812. Moreover, the Confederates had already taken warning from the Northerners' earlier small-scale assaults on Fort Hatteras, Port Royal and Island No. 10 in the Mississippi of the dangerous vulnerability of Richmond to amphibious assault up the York and James rivers. To some extent, McClellan was pushing on an open door.

Accordingly, a huge army of over 120,000 men, the biggest so far assembled in the Civil War, was embarked in 400 vessels together with all their wagons, guns, pack animals 'and the enormous quantity of equipage etc required for an army of such magnitude'.²⁵ It was the biggest amphibious operation conducted by the United States until the Normandy landings of 1944. The first ships departed on 17 March 1862. They landed, unopposed, at the Northerners' own Fort Monroe two to three days later. Thereafter McClellan did indeed advance up the peninsula, supported from both maritime flanks by the Navy. He took the Confederate strongholds at Yorktown and Williamsburg and approached Richmond.

On 15 May 1862 a five-ship Northern flotilla, headed by the gunboats *Galena* and *Monitor*, came up the James river, in an exercise in what the US Marines would later christen 'ship to objective manoeuvre' (STOM).

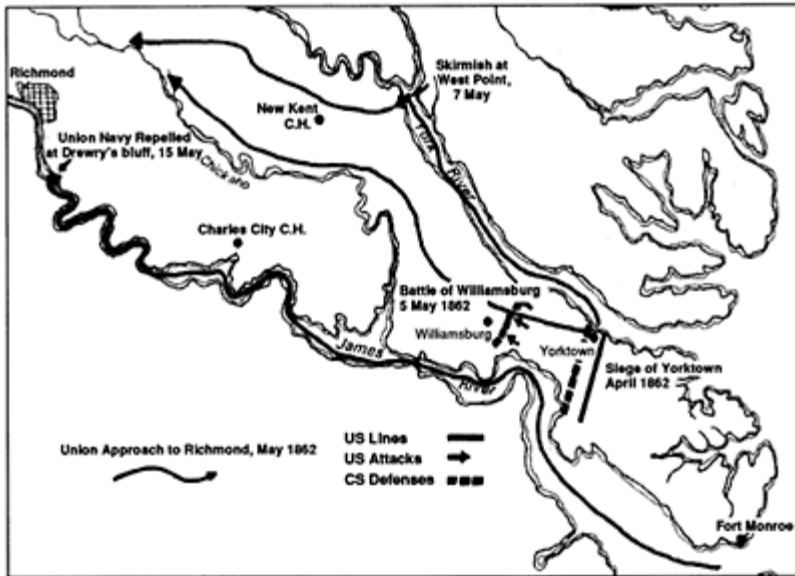


FIGURE 7.6 Drewry's Bluff:
Manoeuvre From the Sea

(Source: Martin, 1992)

The idea was 'to reduce all the works of the enemy as they go along... and then get to Richmond, all with the least possible delay, and shell the city to surrender'.²⁶ This advance was stopped in a battle at Drewry's Bluff so decisive for the Confederacy that both President Jefferson Davis and General Robert E. Lee rode out to witness the aftermath, and Richmond rang its bells in victory. Even so, some of McClellan's people remained convinced that a combined attack by the Army and Navy could still prove irresistible. But in fact the moment had passed. The Northern Army of the Potomac slowly fell back on Fort Monroe and by August 1862 began to evacuate. The Peninsula campaign was over.

So what had gone wrong? Looking back on it, does the failure of this campaign invalidate the concept of OMFTS—or was it merely a matter of faulty implementation, which could be corrected by the technology and techniques of a later age? The US Marine Corps seem to have concluded the latter, provided some obvious deficiencies were corrected.

Insufficient sea control

The terrifying Southern ironclad the *CSS Merrimack/Virginia*²⁷ devastated a Northern naval squadron of wooden ships at Hampton Roads on 8 March 1862. Two ships were sunk, and another driven aground. What if the *Merrimack* got into the invasion fleet, or even went up the Potomac to attack Washington? Fortunately for the North, the US Navy's answer was the *USS Monitor*, which arrived the following day, when the famous

encounter between the two ironclads took place. Tactically, the result was a stand-off. Afterwards, both ships warily watched each other and made menacing movements that effectively neutralised the other. The fear and loathing that *Merrimack* inspired can be deduced from the following description:

She remained there smoking, reflecting and ruminating till nearly sunset, when she slowly crawled off nearly concealed in a huge, murky cloud of her own emission, black and repulsive as the perjured hearts of her traitorous crew.²⁸

Merrimack's role as a one-ship 'fleet-in-being' required a large squadron to watch her, and this meant that the Northern Navy's support to McClellan on the York river was reduced, and virtually none was available for the James river during the first critical few weeks of the campaign. Only when the Northern Army took Norfolk and its shipyards on 10 May, forcing the destruction of *Merrimack*, was the James effectively opened; the Battle of Drewry's Bluff took place five days later. Such experiences help explain the modern stress on total 'battlespace dominance' and the assumption of high levels of sea control both on the open ocean and in littoral waters.

Loss of momentum

Lincoln had warned that 'going down the [Chesapeake] Bay in search of a field [of battle], instead of fighting at or near Manassas, was only shifting, and not surmounting a difficulty: that we should find the same enemy, and the same or equal entrenchments, at either place'.²⁹ The solution to this was speed and surprise. The second was achieved but not the first. McClellan became known as the original 'Virginia Creeper' because of the Army's very slow rate of advance. This was due to the awful state of the roads, the weather, and an exaggerated notion of the size of the forces opposed to him. These combined to make McClellan reluctant to divide his forces for 'desants' further up the peninsula. One such exercise was the unloading of General Franklin's specially trained amphibious division at Eltham's Landing, 20 miles up the York river on 6 May, but it was typical of the conduct of this campaign that the Confederates had already slipped past this outflanking movement by the time it was eventually launched.

These days, the argument goes, a clear sense of mission, fast ship-to-shore movement and great overland/aerial mobility should avoid such problems. Ideally this should be achieved by STOM. The invaders should not need to come ashore at Fort Monroe and then laboriously work their way up the peninsula; instead they should be conveyed straight to the objective, in this case Richmond. Unsurprisingly, US Marine Corps Doctrine concludes: 'Superior mobility—the capability to move from place to place faster than the enemy while retaining the ability to perform the mission—is a key ingredient of maneuver.'³⁰ In modern times, the use of fixed- and especially rotary-wing aircraft as a means of developing speed and momentum has been particularly important. The concept of 'vertical envelopment' was employed first by the British in the Suez operation of 1956.

STOM technology not up to the job

Naval gunfire support in this campaign was useful rather than decisive, especially in comparison with the shore-based artillery it had to defeat. At the Battle of Drewry's Bluff, most of the effective gunnery was conducted by *Galena* because the *Monitor*'s guns could not elevate sufficiently to deal with the Confederate's guns 200 feet above them. This demonstrated the need for sea-based craft specifically optimised for littoral operations of this sort.

The Confederates had their problems too. They needed to depress their guns so much they had problems stopping the cannon balls rolling out of the barrels before they were fired. The result of this was a technical/tactical stand-off and a decisive failure in STOM. Nowadays, the theory goes, firepower should 'shape the battlespace'. US Marine Corps doctrine approvingly quotes Russell Weigley on this concept: 'Shaping activities may render the enemy vulnerable to attack, facilitate maneuver of friendly forces and dictate the time and place for decisive battle.'³¹ In short, military technology of this sort has to be good, but it has also to be effectively integrated into the other aspects of the operational art. It does not win battles on its own.

Insufficient jointery

In responding to the threat posed by *Merrimack*, the Navy clearly had its own agenda. Nevertheless, it played a vital role at the tactical and operational levels in getting the invaders to the operational area in safety, in keeping them supplied, in continually transporting men and material up and down both rivers, in providing fire support and, finally, in extracting the Army back to Washington when the campaign effectively ended. Probably there could have been more. Had, for example, the Navy's advance on Drewry's Bluff been supported by an overland assault the outcome might have been very different. The Navy's dependence on the land forces in such littoral operations was also exemplified by the fact that in the end *Merrimack* was effectively destroyed by the Army not by Federal warships.

In sum, advocates of OMFTS tend to conclude that the James was indeed 'the River of Lost Opportunities' and that more modern technology and techniques make the concept behind the Peninsula campaign finally achievable.

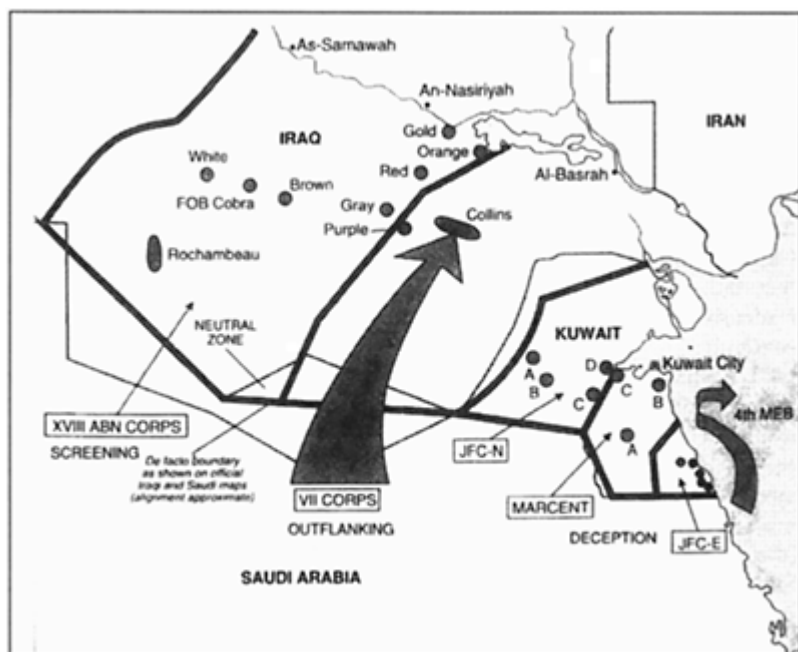


FIGURE 7.7 The Coalition Plan, 1991:
Operational Manoeuvre from the Sea

OMFTS: The Strategic Consequences

Callwell was rather more interested in the grand strategic consequence of the Peninsula campaign as an example of OMFTS (not of course that he used this phrase!). He thought the various campaigns in Virginia vividly depicted ‘the influence of sea-power over the course of the conflict on shore’. Later, when Lee invaded Maryland, McClellan ‘was hastily brought round by sea from the James to near Washington, and so Lee found himself confronted on the Antietam by an army which was too strong for him and consequently withdrew to Virginia’. In short, even after the failure of the Peninsula campaign, the Northerners’ control of the sea in the Chesapeake Bay and their consequent capacity for operational manoeuvre on the grand scale saved them from disaster.³²

The same strategic consequence of a demonstrated capacity for OMFTS can be seen in the Gulf War of 1991, the more dramatically because this was a campaign of opposites. On the Iraqi side it was all attritional and static—a linear confrontation of forces and resources; the Coalition, on the other hand, was manoeuvrist in its approach. The ‘amphibious feint’ by the US Marines first distracted Iraqi forces to the Kuwait coastline and then, much more importantly, reinforced their impression that the allies were planning to come straight across Kuwait’s southern border. This ‘maritime contribution to joint operations’ was reinforced by the Coalition’s air superiority which blinded the Iraqis to the Coalition’s actual focus 200 miles to the west, where they were able to

develop a sweeping outflanking move deep into Iraq's defensive system. Once Allied forces began to move, their operational superiority was evident; the air supremacy enjoyed by the Coalition meant that the Iraqis did not know what was going on, and when they did, it denied them the capacity to respond coherently. OMFTS can evidently play a crucial strategic role even in a war of geographic contiguity.³³

To achieve all this in contemporary circumstances, a sea-based force (most obviously comprising a combination of naval and marine forces) would need the capacity to assault from over the horizon (to maximise surprise) and a STOM capacity of some sort (to maintain speed and momentum). The landed forces would depend on maritime firepower and sea-based supplies. The commander will need full 'situational awareness' (through effective reconnaissance and command and control). Sea-based forces may also provide a manoeuvre reserve. General McClellan would not have been familiar with the words, but he would certainly have recognised the aspirations. How realistic these aspirations are for forces other than the US Navy and Marine Corps depends on the resources they devote to it, and, as always, on the relative strength of the opposition.

7.5 SEA-BASED STRATEGIC MISSILE ATTACK OF THE SHORE

During the Cold War for the first time some of the world's leading navies acquired in their capacity to operate ballistic missile firing submarines a fundamentally new role in the projection of power ashore. Admiral Gorshkov pointed out how revolutionary this was:

Today, a fleet operating against the shore is able not only to solve the tasks connected with territorial changes, but directly to influence the course and even outcome of a war. In this connection the operations of a fleet against the shore have assumed paramount importance in armed conflict at sea.³⁴

Practically for the first time, navies were able to have a direct, immediate and decisive impact not just on the tactical and operational levels of war but on its *strategic* conduct and result.

According to Gorshkov, there were, and remain, four basic reasons for putting such strategic nuclear forces to sea:

- It increases reach, since ballistic missile firing submarines (SSBNs) can use the sea to approach their target more closely. The shorter the range of the missile the more important this advantage.
- It conceals the missiles from pre-emptive attack and reduces the incentive to use them early in a conflict. This may help stabilise a dangerous situation. Moreover, it means that however skilful the aggressor's attack, he will still be subject to devastating retaliation. This was the whole basis of 'mutual assured destruction'—'a most important factor deterring his nuclear attack'.
- Attacks can be launched from different directions, complicating the enemy's protective task.

- Putting such forces at sea reduces the enemy's incentives to launching disarming strikes against the homeland with all the horrifying death and destruction that would cause.

Clearly, the relative invulnerability of the SSBN was key to all this, and explains why so many resources were devoted to the protection of SSBNs and to investigating ways of detecting and attacking them. During the Cold War, various SSBN operating procedures were adopted. Broadly, Western SSBNs were operated in forward positions, and relied on their stealth for protection. Soviet SSBNs, on the other hand, tended increasingly to operate in 'bastions' (in the Norwegian Sea and north-west Pacific) where they could be protected partly by the efforts of the fleet (which included land-based aviation) and partly by the environment (most obviously Arctic ice).

In the event, this became a major naval activity during the Cold War. The US Navy conducted some 35,000 SSBN patrols during the twentieth century, taking some 130,000 man-years of effort, and through their Blue/Gold teams maintained an astonishing 70 per cent deployment rate. The technological effort was immense too. The first SSBN, the USS *George Washington* was completed five years early in 1958, and the 41 SSBNs eventually produced in less than eight years testifies to the priority given this mission. Estimates vary but, counting in the US Navy's SSN programme, the sea-borne deterrent took about one-third of the \$2 trillion spent on nuclear forces by the United States.³⁵ There was a comparable effort in the Soviet Union too.

The fact that American SSBNs took up some 10 per cent of the US Navy's budget between 1959 and 1964 explains why American admirals were notably cool about accepting this new mission. The resources and technological effort required for this programme could not be devoted to other more conventional naval activities. Their wariness also reflected a strong sense that the thinking behind the *use* of the missiles the SSBNs carried generally had very little to do with maritime strategy. This mission seemed to stand apart from the main maritime effort.

But, increasingly, a process of convergence changed this, not least because the protection or attack of such forces absorbed considerable operational effort. Indeed, in the 1980s under *The Maritime Strategy* there was much discussion of the putative advantage of Western forces attacking Soviet SSBN bastions as a way of tying down Soviet naval forces that would otherwise be free to attack Western reinforcement shipping coming across the Atlantic. In such ways, the capacity to fire ballistic missiles against the shore for strategic purposes became thoroughly integrated into the mainstream of maritime strategy, and in the same way sea-launched cruise missiles have become an integral part of the maritime power projection mission at the tactical and operational levels.

7.6 DEFENCE AGAINST MARITIME POWER PROJECTION

'with eight tall ships. Three thousand men of war
Are making hither with all due expedience
And shortly mean to touch our northern shore.'
Shakespeare, *Richard II*, II/1

We should now turn to the mirror image of all this—the need to defend yourself against maritime power projection forces hostile to you.

Defence Against Amphibious Assault and Raids

As we saw in Section 2.6, many navies, great and small, have been concerned about coastal defence. This comprises four interlinked elements, and most nations have employed some combination of all of them.

Deterrence

The Royal Navy has always emphasised the role of a strong fleet in defending the country against amphibious assault, raids and/or passing bombardments. Such a fleet should so dominate the sea around the country that all but the smallest of raids would be intercepted and destroyed. ‘I do not say the French cannot come’, declared Lord St Vincent confidently in the Trafalgar era, ‘I only say they cannot come by sea.’³⁶

The maintenance of command (either by a restless pursuit of decisive victory or by blockade) was the first line of defence against invasion but would normally work indirectly, very possibly as a deterrent. Few would try to send major invasion forces through waters commanded by the defending fleet. In such a case, maritime deterrence of invasion would merely require a direct defence against sneak attacks and minor infiltrations. These in turn could be deterred by the known strength of your defences closer to shore and on land.

The less confident an invader was in his capacity to exercise command through projecting power ashore, the more effectively could an imaginative fleet-in-being strategy deter an amphibious assault. This was, arguably, Torrington’s objective in 1690, as we saw in Section 6.7. Mahan and Castex both concluded that Colomb exaggerated the *extent* to which an invader needed command of the sea before launching his attack and so overestimated the ability of the fleet-in-being (which sought to limit the degree of that command) to deter such attempts. It is certainly true that there are many examples of invasions being attempted when a significant defending fleet was still ‘in being’ (most recently, the German invasion of Norway in 1940, where the British fleet was in fact more or less present and clearly superior to the amphibious force).

Indirect forward defence

But, as we saw in Chapter 5, command of the sea is rarely absolute and the more the sea is ‘uncommanded’ (in the sense that neither side had an overwhelming advantage) the more feasible is the prospect of invasion. In such a case, thought Mahan (most of the time), the stronger fleet should resort to offensive action:

The navy’s proper office in offensive action, results as certainly in battleships as the defensive idea does in small vessels. Every proposal to use a navy as an instrument of pure passive defence is found faulty upon particular examination ...the effectual function of the fleet is to take the offensive.³⁷

This offensive action could take at least three forms or more likely some combination of them:

- building an accurate picture of the enemy's position, strength and possible moves;
- spoiling attacks of the sort launched in 1587 by Drake against the Spanish Armada at Cadiz;
- interception at sea.

Discovering the enemy's intentions was especially important, since an enemy seeking to invade across a relatively uncommanded sea had two choices. He could either put all his forces together, battlefleet and transports, and fight his way through if that was necessary; or he could split the two up and use his battlefleet to lure the defender away and then send his transports over in their absence. Either way, the defender needed to know what was intended.

Corbett thought that the speed of modern intelligence and an increased capacity to catch and overwhelm an invasion convoy and escorts made the chances of successful interception at sea much better, not worse, than they were in days of sail. And yet, in both world wars, the majority of invasions succeeded in reaching their objectives safely: only a few were even partially intercepted at sea (Crete in 1941, Coral Sea and Midway in 1942, for instance). Arguably, though, the fear that they would be intercepted by substantial forces at sea, especially with the advent of airpower, deterred many other amphibious enterprises from setting out in the first place.

When an incoming invasion fleet was detected, Corbett recommended holding back the attack until the enemy was 'hopelessly committed to an [amphibious] operation beyond his strength'. This might produce better results than a precipitate offensive. Certainly, he declared, 'whether the expedition that threatens us be small or of invasion strength, the cardinal rule has always been that the transports and not the escort must be the primary objective of the fleet'.³⁸ It was just as well for the British in the Falklands campaign that Argentina's airmen were either unaware of this rule, or were unable to observe it by virtue of the strength of the British air defences.

Direct defence offshore

Some invaders/raiders were likely to leak through the strongest fleet, especially when it was limited in size and/or operational aspiration. For this reason, it was necessary to have a final line of naval defence, just off the coast. Admiral Pellew, in the period before Trafalgar, said,

I see a triple naval bulwark composed of one fleet acting on the enemy's coast, of another consisting of heavier ships stationed in the Downs ready to act at a moment's notice, and a third close to the beach capable of destroying any part of the enemy's flotilla that should escape the vigilance of the other two branches of our defence.³⁹

This was the thinking behind Admiral Fisher's notion of flotilla defence based on small warships, submarines, mines and aircraft, just before the First World War. As we saw in Section 2.6, this idea, a development of the 'fortress fleet strategy', was taken forward by

the Soviet New School, when the navy's task was defined thus by Chief Commissar Mucklevitch in 1930:

In war the fleet would accompany the army during its advance and it would not be guided in its activities by lessons drawn from the study of the Battle of Jutland, because it would not seek to solve its problems by an open sea encounter with the enemy's fleet, but would carry on a small war, relying on minefields, submarines and naval aircraft.⁴⁰

Soviet naval strength, in other words, should not be concentrated in a few large units, but diffused amongst a host of minor ones. The resultant 'mosquito fleet' could mount an ever more intensive and ferocious attack on an enemy invasion fleet the closer it approached the shores of the Soviet Union. Aided by modern technology, the Soviet New School hoped to conduct their war at sea on lines quite novel in maritime strategy.

Since land forces ashore would have a major role to play as well, this required close cooperation with the Army, especially if the enemy did, after all, land and consolidate himself ashore. In this case, by harassing his maritime communications, the Navy would hinder his every movement, or even oblige him to withdraw. Richmond noted an example of this: 'Korea, when invaded by Hideyoshi in 1592, was saved by investment of the Japanese army, the Korean navy cutting off its communications and investing it, forcing it thereby to evacuate the country.'⁴¹ The Chinese Navy of the 1950s exemplified this approach. Its first post-Revolution commander Xiao Jingguang said the navy,

should be a light-type navy, capable of inshore defence. Its key mission is to accompany the ground forces in war actions. The basic characteristic of this navy is fast deployment, based on its lightness.⁴²

During and after the Second World War, the following were common characteristics of direct defence at sea against amphibious operations:

- Co-ordinated attack by small submarines, fast-attack craft, assault swimmers (as the Germans attempted off Normandy in 1944).
- Air assault on invasion forces. Towards the end of the Pacific war, the Japanese resorted to *kamikaze* attacks with considerable effect. Smart munitions now pose a significant threat and explain current preoccupations with air and anti-missile defence.
- Extensive minefields such as those deployed by the North Koreans off Wonsan in November 1950, and the Iraqis in 1990–91.

In contemporary circumstances, the defender has a range of political and technological options to ensure that an expeditionary invader may need to fight for access both in transporting his forces to the operations area and in getting them to their objective, against a range of terminal defences. These will be discussed at greater length in Section 8.7. Such defences may well include theatre ballistic missiles, hence the interest in developing defensive systems against them.

Direct defence onshore

In the course of a long, heated debate about the respective roles of the army and the navy in the defence of nineteenth-century Britain, the army argued that there was a fundamental unreliability about the possibilities of naval defence—which meant that the country needed strong defences behind the shore line. General Lord Wolseley commented in 1896:

I know of nothing that is more liable to disaster and danger than anything that floats on the water. We often find in peace and in the calmest weather our best ironclads running into each other. We find great storms dispersing and almost destroying some of the finest fleets that ever sailed. Therefore, it is essentially necessary that it [Britain] should always have a powerful Army, at least sufficiently strong to defend our own shores.⁴³

In some instances, indeed, orthodox naval power may seem so irrelevant to the defensive task in hand that the only contribution that major warships can make is to be disarmed so that their guns and manpower can reinforce defences on land. This was the fate of the French Navy in the war of 1870–71, and the Russian Navy in the Crimean War and during the German siege of Leningrad of 1941–43.

But even the strongest naval power may well feel the need to guard against unexpected descents with a system of coastal fortifications, guns and reserve land forces behind them. This was certainly what Furse expected.⁴⁴ Even in the nineteenth century, at the height of *Pax Britannica*, the British spent a fortune on the extensive coastal fortifications that still dominate much of the coast of southern England.

That impulse is still more marked amongst countries that do not themselves maintain large sea-going fleets:

- Humiliated by the British burning the White House, President Madison in 1815 urged ‘a liberal provision for the immediate extension and gradual completion of the works of defence of our maritime frontier’, but progress was slow and the works around Charleston, the second biggest port on the east coast, were not completed by the time that the Civil War started, actually at Fort Sumter, in 1861.
- In the Australian case, the priority was to defend places like Sydney from local but overland attack and its harbour and installations from sea bombardment. Its formidable Martello tower of 1857 at Fort Denison with 2×10–inch guns, 1×8–inch gun and 12 32–pounder cannon was one of the last such fortifications to be built anywhere in the world.
- In the Norwegian, Swedish and Finnish cases, a large fleet of small warships was backed up by extensive and sophisticated coastal artillery batteries—both being supported by airpower and a ‘total mobilisation’ defensive system. In their 1940 invasion, the Germans suffered their biggest single loss, the sinking of the heavy cruiser *Blücher* to a torpedo fired from a coastal fort on the Oslo fjord.

- The Argentine Exocet attack on HMS *Glamorgan* in the Falklands campaign and the Iraqi firing of a Silkworm against coalition forces in the northern Gulf in 1991 are contemporary versions of this.

The defender's main difficulty in dealing with forces hitting the beach derives from the fact that the invader has the initiative in deciding the time and place of his assault. The defender therefore has to spread his defences along the coastline and to keep a reserve back to deal with landed forces that local defences cannot contain and expel. The famous dispute between Rommel and von Runstedt before the Normandy landings was not about either defence on the beaches or further inland; rather, it was about the balance that should be struck between the two. Here the critical issue to be decided was the extent to which the invader would be able to slow up the movement of German reserves through superior airpower. The more closely the landing force can be contained, the less able will it be to build up its combat potential for break-out and the more vulnerable to counter-attack by the defender's reserve.

At the Salerno landings of 1942, the mobile defence system adopted by the Germans, which stressed counter-attack on the landed forces by heavy armour, was very nearly successful in driving the Allies back into the sea. This did not work in the Normandy landings, however, because the reserve *Panzer* divisions were held back lest the real landing took place in the Pas-de-Calais—and, when they were eventually committed, Allied aircraft and the French resistance greatly slowed their progress. In the Pacific, however, the Japanese faced a different set of problems in defending their gains. The islands were often too small for the safe marshalling of effective reserves, *banzai* charge counter-attacks were wasteful and it was difficult for them to bring reinforcements across seas largely controlled by the Americans. Accordingly, there was a tendency to focus on beach defences and when accumulated American naval/air firepower made that unproductive, the Japanese resorted to 'cave tactics' (as at Iwo Jima) or even spoiling counter-landings in or near the American beachhead.

The variety of these responses shows that there are no simple rules in defending against invasion. The defender has to make up his strategy on a case-by-case basis. Moreover, defenders should be aware that despite their obvious and much-vaunted difficulties, most amphibious assaults succeed, and most attempts at defence against them fail.⁴⁵ Further, an invader's capacity to engage in STOM operations makes the defender's task even more difficult.

Defence against Missile Attack

At the end of the twentieth century, a special variant of the historic requirement to defend against maritime power projection came into prominence—namely, defence against missile attack. The acquisition of missiles and weapons of mass effect by an increasing number of countries, and the technological blurring of the differences between strategic, operational and tactical actions, high-lighted two maritime issues.

- First, was a growing recognition of the need for the protection of expeditionary forces from cruise, and increasingly ballistic, missile attack. This concern was not wholly new. If Germany in 1944 had directed its V1 missiles against the Allies' ports of embarkation rather than London, the Normandy operation would been in jeopardy.

General Eisenhower was quite clear about this: 'If he [Hitler] had succeeded in using these weapons over a six-month period, and particularly if he had made the Portsmouth-Southampton area one of his principal targets, *Overlord* [the Normandy Invasion] might have been written off.'⁴⁶

The Iraqi Scud missile that landed on the dockside of the port of Al-Jubayl in February 1991 exemplified a concern that has led the US and many other navies to explore means of expanding existing anti-missile and anti-aircraft defences in order to cope with short-to medium-range ballistic missile attack of bases, ports, deployed forces or local allies. Thus an Aegis ship operating off South Korea could protect the port of Pusan and its immediate area. A more ambitious variant of this area defence is the notion that it could be extended to cover whole theatres of operation (theatre ballistic missile defence (TBMD)) under which the same ship could also help protect the whole of Japan.

- Second, there is the still more ambitious notion that sea-based forces at sea off an adversary's coastline could significantly contribute to national missile defence (NMD) by intercepting missiles in their ascent phases. This is much more demanding technologically; moreover it challenges the traditional 'mutual assured destruction' conception of strategic nuclear deterrence, together with the treaties that enshrine it. It is accordingly highly controversial.

Naval forces such as Aegis-equipped cruisers and destroyers have much to offer TBMD because:

- they are likely to be faster into theatre than air-lifted alternatives like the Patriot system;
- they require no airlift;
- they do not depend on host nation support;
- the sea allows them to deploy forwards against the threat.

But there are trade-offs here, because forward deployment might reduce capacity to conduct other maritime operations and certainly provides a new operational commitment to be serviced. Both types of sea-based missile will be very demanding technologically, not least in the requirement for sophisticated battle management technology and an ambitious level of 'cooperative engagement' between different naval and other forces. They will absorb the expenditure of considerable maritime resources and provide another illustration of the extent to which naval activities now need to be integrated with other forms of military activity.⁴⁷

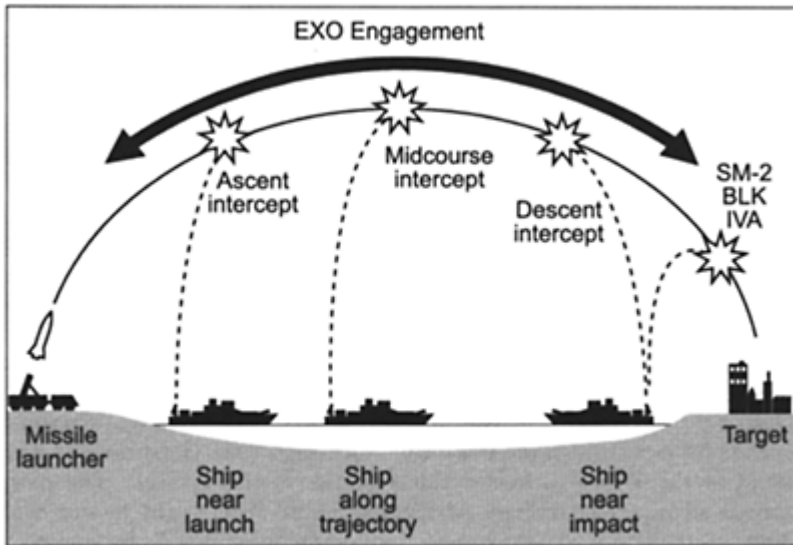


FIGURE 7.8 Defence against Missile Attack

7.7 THE ATTACK ON MARITIME COMMUNICATIONS

The second use of the sea is as a means of transportation. Mahan and others have made the strategic value of this clear. Not surprisingly, therefore, activities against, or in support of, the ability to use the sea as a means of moving people and goods around the world have always been an important aspect of naval conflict. As Figure 7.9 shows, the attack on maritime communications can take a variety of forms, depending on their purpose and the means available.

Attacking Military Shipping

In the Cold War, expectations of any major war being quite short together with a realistic appreciation of the vulnerability of ports, and the large stocks of fuel and food held by most modern countries, all led to a focus on the attack of maritime communications as a way of interrupting the flow of *military* personnel and equipment to the area of operations. This reflected a long-held view of the *symbolic* importance to the Western alliance of sea lines of communications (SLOCs). In 1953, for instance, the US Chief of Naval Operations pointed out:

Our entire politico-military philosophy today is based on the concept of collective security, which comprises overseas alliances, overseas bases, and US military forces deployed overseas. The keystone of this entire

structure is the confidence felt by our allies that we can and will maintain control of the sea communications in the face of any threat.⁴⁸

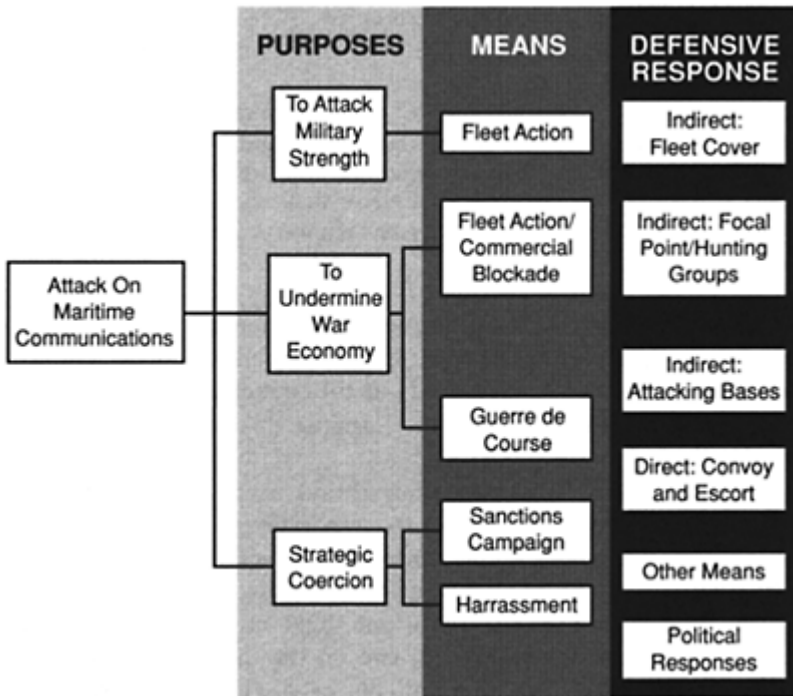
It was essential that the United States should not allow itself to be 'decoupled' from its allies. Accordingly, and despite doubts that a major East-West war would be over too soon for even this to be very significant in strategic terms, NATO devoted considerable thought and resources to identifying the seriousness of the threat and its means of reply. The safe and timely arrival of military reinforcement and re-supply shipping coming to western Europe from across the Atlantic therefore became a major Western preoccupation.

For his part, Gorshkov's discussion of the First and Second World Wars made clear how important it was to sever military communications at sea. During the Great Patriotic War, this had been a major feature of maritime operations, especially in the Black and Norwegian Seas. Gorshkov was well aware of the West's particular vulnerabilities in this respect: 'The most zealous advocates of military adventures in the West ought to stop and think of their...greatly extended communication lines', he warned.⁴⁹ While the Soviet Navy probably never thought as much about attacking NATO shipping as NATO did about defending it, the longer and more important the conventional phase of any putative East-West war, the more attention the Russians paid to the issue. One of the reasons for this was an appreciation that attacking such Western vulnerabilities might reduce pressure on Soviet SSBN bastions by sucking more NATO naval assets away from offensive and into defensive activities. If the Soviet Navy had decided to launch such a campaign, its literature and exercises both suggest that the missile and torpedo-firing submarines would have been the main vehicle for attack, supported by large numbers of land-based aircraft. More directly, if Soviet pressure had forced the reinforcement convoys to take a very southerly route (perhaps by way of the Azores) potentially crucial delays in their arrival on the central front might have ensued.

In more recent times, the potential vulnerability of military shipping remains an issue. During Desert Shield/Storm, for example, there was much concern about the possibility of a high-seas attack on Coalition forces *en route* to the Gulf. The threat was in fact remote but the severe political consequences of a successful attack meant it was taken seriously. Moreover, the Iraqi missile attack on Al-Jubayl in that same conflict revealed the vulnerability of ships and military cargoes in their ports of receipt.

Undermining an Opponent's War Economy

Undermining an opponent's war economy would reduce his finances, resources and materials and so cut away at every aspect of his capacity to



7.9 The Attack on Maritime Communications

make war. It would also force him to devote relatively more effort to the production of the necessities of life. If the enemy had particular needs and vulnerabilities then it made sense to target them (bullion fleets in sixteenth and seventeenth centuries, oil tankers in the twentieth). Sometimes attacking the enemy's war economy seemed especially logical when the war was about trade anyway. 'What matter this or that reason?' demanded General-at-Sea, George Monk. 'What we want is more of the trade which the Dutch now have.' In the case of the Dutch Wars, therefore, attacking the enemy's merchant shipping seemed to make obvious and practical sense.⁵⁰

Orthodox opinion was clear that the commercial blockade imposed by the side with command of the sea was the preferred method of undermining an opponent's war economy. This aim was best achieved, thought Mahan, by 'the possession of that overbearing power on the sea which drives the enemy's flag from (the sea), or allows it to appear only as a fugitive'.⁵¹ It was Cromwell's main fleet, not his commerce raiders, which destroyed Dutch trade and made grass grow in the streets of Amsterdam. The imposition of a commercial blockade was the supremely effective way of destroying the enemy's maritime commerce. Thus Mahan, in one of his most celebrated passages, declared:

Amid all the pomp and circumstance of the war which for ten years to come desolated the Continent, amid all the tramping to and fro over Europe of the French armies and their auxiliary legions, there went on unceasingly that noiseless pressure upon the vitals of France, that compulsion, whose silence, when once noted, becomes to the observer the most striking and awful mark of the working of Sea Power.⁵²

The British commercial blockade, argued its proponents, could devastate the enemy's war economy because, in Richmond's phrase, it strikes at the root, where sporadic warfare hacks only at the branches.⁵³

Some reservations need to be entered against this view, however:

- Attacking the enemy's commerce has always been fraught with moral, legal, political and strategic difficulty, especially when it infringes the rights of powerful neutrals. The unrestricted German U-boat offensive of 1917 was clearly counter-productive for this reason. The need to establish the real intentions of particular ships, on what in their cargoes should be construed as contraband, and on the moral legitimacy of the action makes the whole business difficult, even when the military means are readily available.⁵⁴
- Historically, it is often difficult to assess just how effective such commercial blockades have been in strategic terms, because their effects have usually been entangled with other consequences of war. To what extent, for example, was the chronic shortage of food in Germany, that is so often ascribed to the activities of the Royal Navy, also due to the neglect of agriculture caused by the flow of men to the trenches? To what extent can the effects of blockade be compensated for by methods of substitution? None the less, it is significant that both in the British view and in the view of a succession of their victims—the Dutch (seventeenth century), the Americans (1812–14) and the Germans (1914–18)—the strategic impact of the commercial blockade at least *seemed* to be very important strategically.

Commercial blockades have been imposed in much the same way as the fleet blockades discussed in Section 6.8, often at the same time and by the same warships. They need to be sensitive to the legitimate concerns of neutral shipping, a requirement usually met by an interception and inspection regime of some sort.

The ideas behind the *Guerre de Course* were discussed in Section 2.6. Traditionally, it seemed to be a particularly logical course for the weaker naval side to adopt. So much so, in fact, that Corbett argued:

A plan of war which has the destruction of trade for its primary object implies in the party using it an inferiority at sea. Had he superiority, his object would be to convert that superiority to a working command by battle or blockade.⁵⁵

By accepting conventional operations, the weaker side would be forced into 'inevitable and rapid defeat, whereas by a *guerre de course* it prolongs operations very considerably and knows that before going under it will do some damage'. A few years later, Germany's Admiral Hipper echoed these sentiments exactly with his notion that

‘carrying out of cruiser war with the battle cruisers of the Atlantic remains the one way in which our High Seas fighting ships can damage the enemy and thereby justify their existence’.⁵⁶

This approach was reinforced by the belief that, since the offensive, not the defensive, was the stronger form of war at sea, a war on commerce would be disproportionately effective in soaking up the resources of the defending side. For the attacking side the *guerre de course* often seemed cheap to operate (especially when privateers were its main protagonists) and surprisingly effective. Gorshkov made the essential point:

Therefore the question of the ratio of submarine to antisubmarine forces is of great interest even under present-day conditions, since if ASW forces, which were so numerous and technically up to date (for that time), possessing a vast superiority, turned out to be capable of only partially limiting the operations of diesel submarines, then what must this superiority be today in order to counter nuclear powered submarines, whose combat capabilities cannot be compared with the capabilities of World War II-era submarines?⁵⁷

In some circumstances, indeed, a *guerre de course* might be the only means of producing a sufficient ‘displacement of forces’ for a weaker navy ever to have a hope of defeating a stronger one. ‘Commerce destroying’, thought de Lanessan, could be ‘a strategic means to compel our rivals to disperse their ships over the world, so as to lessen the difference in strength which exists between their forces and ours in European waters’. Such ideas inspired President Thomas Jefferson and his successors in the United States during the nineteenth century, and various leaders of Germany’s navy in the twentieth century.⁵⁸

Of course, the value of these strategic devices ultimately depended on the success of the other naval activities they led to. But, although they were indirect and conditional, the possible strategic consequences of attack on the enemy’s maritime communications could be at least as great as those deriving from any direct tally of ships sunk and cargoes lost. Moreover, the sensitivity to loss of powerful trading classes could make it difficult for governments to resist their complaints, thereby making the *guerre de course* perhaps more strategically effective than, objectively, it was.

Nevertheless, orthodox opinion tended to be sceptical about the long-term strategic effectiveness of a *guerre de course*, even when conducted by submarines, partly because the marine resources of a great maritime power were so huge, partly because a truly effective *guerre de course* would have to be conducted in a barbaric way which could backfire on the perpetrator (*vide* the manner in which ‘unrestricted’ U-boat warfare precipitated the US entry in the First World War in 1917), but mainly through confidence that the defensive measures possible to a fleet that otherwise commanded the seas would always, in the end, prevail.

Corbett, for example, criticised the notion

so often proved fatal and so often reborn as a new strategical discovery that a naval war may be conducted on economical principles and a great power be brought to its knees by preying on its commerce without first getting command of the sea.⁵⁹

Mahan was equally unimpressed by the efforts of the commerce destroyers in the Dutch Wars. Unless properly supported, the cruiser 'can only dash out hurriedly, a short distance from home, and its blows, though painful, cannot be fatal.'⁶⁰ Interestingly, Raoul Castex was particularly scathing about the ideas of the *Jeune Ecole*, his own countrymen. He believed that the *guerre de course* needed the support of the *guerre militaire* to effect a decision. Employed by itself, an offensive directed against communications and commerce would fail. The submarine warfare on commerce of 1914–18 failed because the support of a surface force was wanting. The master of the surface would always dominate essential surface communications: an offensive by submarines would not overcome that preponderance unless it was accompanied by surface action to dispute command.⁶¹ Gorshkov made exactly the same point of the German submarine campaign of the Second World War.⁶² Nicholas Tracy has sensibly concluded that:

naval action to deny an enemy the use of the sea for his trade is a strategy which only has decisive military and political significance when it is undertaken by the strong against states which are at once weak and economically vulnerable...⁶³

Strategic Coercion

Interrupting, or disrupting, an adversary's capacity to use the sea as a form of maritime transportation may best be seen as a form of strategic coercion of the sort discussed in Section 9.6, but a brief reference is needed here because of its superficial similarity to the attack on maritime communications in wartime. Strategic coercion may take the form of a sea-based sanctions campaign of the sort imposed on Iraq in the wake of the Gulf War and on Serbia in the 1990s. Here the aim is to force the target nation into a course of political action it is reluctant to accept, and the method is similar to the imposition of a commercial blockade. It may be specifically targeted against the passage of military forces or equipment (as was the US quarantine operation against Warsaw Pact shipping to Cuba in 1962).

Alternatively, such strategic coercion may involve harassment of shipping for political purposes. In the case of the 'tanker war' in the 1980s this took an extreme form involving lethal military attacks on neutral shipping entering the Gulf. The US mining of Haiphong harbour as a means of deterring the Soviet Union from re-supplying North Vietnam was a milder form of the same sort of thing.

Such similarities, however, should not be pressed very far. They are much more political in inspiration, as are the appropriate responses, and they are intended by the participants to be seen more as forms of naval diplomacy rather than as acts of war.

7.8 THE DEFENCE OF MARITIME COMMUNICATIONS

To Mahan and many others, the ability to use the sea as a means of transportation was, 'the very root of a nation's vigour' and was the basis of human development. The conclusion was obvious: 'the necessity of a navy ...springs, therefore, from the existence

of a peaceful shipping, and disappears with it'. The attack and defence of maritime communications lay at the heart of maritime strategy.⁶⁴

But exactly how maritime communications should be defended has probably become the most contentious of all issues of maritime strategy, not least because there was, and is, no single solution to the problem, and few simple answers. Time and again, it has been found necessary to adopt a number of complementary defensive strategies and the maritime strategists have all recognised this to be the case. The general validity of their arguments and the various differences between them are essentially matters of degree and emphasis in the mix of responses the task requires. These responses are often not clearly distinguished from each other and include the following:

Indirect and General Fleet Cover

Mahan's view, in brief, was that command of the sea, whether established by decisive battle or blockade, was the essential precondition for the successful defence of maritime communications, since it would prevent most raiders getting out in the first place and would also provide essential cover for the flotillas protecting commerce against the relatively few that did. In the view of a later generation (Richmond, Castex and Rosinski) the First World War showed just how true this proposition was. The essential point was made by Richmond to a British committee of inquiry on battleship construction in 1921:

The small craft acting as escorts, patrols or hunting were able to operate freely ...solely by virtue of the cover afforded by the Grand Fleet. If an earthquake had closed the mouth of Scapa Flow and the fleet had been shut up inside, there would have been nothing to prevent heavy German ships in company with lighter vessels from going out to sea and sweeping away all the small vessels that constituted the defence of trade.

Herbert Rosinski agreed. Since the German fleet was safely blockaded, convoy escorts had only to deal with the U-boats that wriggled their way through to the open ocean. Had those escorts needed to guard against significant surface attack as well, their task would have been impossible. The difficulties facing the Scandinavian convoys, which had perforce to sail in front of the Grand Fleet blockade line, showed that only too clearly.⁶⁵

There was, however, some danger in pushing this argument so far that it led a navy to concentrate so much on securing command that it neglected the exercise of command in the direct defence of shipping. In 1917, arguably, the British did this in their reluctance to release destroyers tasked to protect the battlefleet (where their influence of SLOC protection was at best indirect) in order to provide *direct* defence through the escort of the merchant shipping that was proving so vulnerable to U-boat attack. Sir John Colomb put the matter in very uncompromising terms:

The primary business of our war fleet is to destroy, capture or contain in ports, the enemy's warships. Until the work is done, all thought of applying the navy to the direct protection of commerce must be abandoned. To what extent our shipping and commerce may suffer in the interval between the outbreak of war and the completion of the Navy's

real business, will depend upon previous arrangements made for, and carried out by, our Mercantile Marine itself.⁶⁶

There are those, indeed, who maintain that the US Navy itself lost sight of the mundane necessities of the protection of shipping during the Cold War, with embarrassing consequences in the tanker war of the 1980s.⁶⁷

Indirect General Cover at Focal Points and on Patrolled Sea Lanes

Under this heading comes a cluster of responses under which threatened shipping is afforded indirect support *in particular areas*. Here the idea is that maritime communications should best be protected by warships patrolling ‘the ocean paths which connect one part of an extensive empire with another, which sea-borne commerce must traverse, and along which belligerent expeditions must proceed’. This kind of ‘maritime highway patrol’ would be supplemented by hunting groups intent on ‘the dogging, hunting down, and destruction of every enemy cruiser. The dogging to continue, if necessary, to the world’s end’.⁶⁸

Since raiders would find their targets more easily in terminal areas than on the open ocean, this was where they should be sought in their turn. As Corbett said: ‘Where the carcase is, there will the eagles be gathered together!’ As each focal point was secured, a chain of sanctuaries straddling the world would gradually be constructed.

The track record of this cluster of responses was not in fact very encouraging in the twentieth century, however. In 1916, for example, it led to the notorious second Battle of Portland when three U-boats operated in the waters between Beachy Head and the Eddystone Light, an area dominated by the great naval bases at Portsmouth, Portland and Plymouth. Despite the urgent attentions of 49 destroyers, 48 torpedo boats, seven Qships, several hundred armed auxiliaries and numerous aircraft, the U-boats sank 30 merchant ships in one week and escaped unscathed. Surprisingly, the hunting-group fallacy persisted well into the Second World War, with the Americans only finally abandoning it after fewer than two dozen U-boats in the western Atlantic had sunk one million tons of shipping in six months in early 1942.⁶⁹

To many, such failures were a natural consequence of the use of the metaphor of the ‘sea lane’ or the ‘sea lines of communications’ (SLOCs). This encouraged the notion of naval forces strategically defending sea highways and focal areas, just as an army did a road. But the comparison was wrong. Unlike the land, the sea had no intrinsic value and did not need possessing or guarding. All that mattered was what passed over it. As Admiral Gretton remarked, ‘it is *ships* which must be protected, not lines drawn across charts’ and the deployment of flotilla craft should reflect this basic fact. Instead of guarding sea routes, therefore, one should escort merchant ships as they passed along them.⁷⁰

In some quarters there was none the less a significant resurgence of support for the notions of ‘offensive methods’ and ‘protected sea lanes’ during the Cold War when it was argued that submarines were faster, much better armed and, with external help, could find their targets far more easily than they could before. These developments were held to have robbed convoys of several of their traditional advantages: modern surveillance systems robbed convoys of their former capacity to reduce encounter probabilities; the

relatively increased lethality and greater speed of submarines (which could now attack and keep up with surface forces) seemed to increase the substance of the old 'all the eggs in one basket' objections to convoy. Perhaps in the new circumstances there ought to be a return to the old 'offensive' strategies as mining submarine transit areas, 'forward roving hunter/killer groups and open sea air patrols'.⁷¹

Attacking Bases

Dealing with raiders at sea by attacking their bases has long been a standard naval response around the world. It was, for example, a constant feature of the naval warfare of the Gulf and Indian Ocean areas for many centuries. It was so much more effective than the generally futile mounting of general patrols in open waters. 'Those who advocate the small cruisers on patrol', wrote Fred T. Jane, 'are really no more logical than he who would suggest that instead of destroying the nest, individual hornets should be slain on the wing.' In the First and Second World Wars, this traditional device found expression in amphibious and air raids against German naval bases in France. In the late 1940s, and the 1980s, there were thought to be considerable strategic advantages in dealing with the Soviet submarine threat to NATO shipping 'at source' by forward operations north of the Greenland—Iceland—UK gap.⁷²

Direct Defence: Convoy-and-Escort

Here the emphasis is on the direct defence of shipping, not of the routes by which it travels. Gretton argued that the Mediterranean campaign of 1940–43 showed that high levels of general and permanent sea command were welcome, but difficult to achieve and often unnecessary as a means of protecting shipping. The Mediterranean was a disputed sea, but both sides were able to use it. They squeezed convoys through as needed, their tracks crossing each other at right angles, 'fortunately without collision', Gretton added drily. This showed that it was only strictly necessary to maintain temporary control of a moving zone 'of water in which the ships float, as well as the air above and the depths below'.⁷³

Convoy made sense for two basic reasons. First, it offered the individual merchantmen the greatest mathematical chance of escaping detection and attack altogether—even if they were totally unescorted. Grenfell explained it thus:

If we assume a ship to be visible at sea from ten miles away, a vessel on the ocean will be represented by a visibility circle of ten miles radius, which visibility circle will move along with the ship as she alters her position. If, say, twenty-five ships are pursuing separate tracks through an area out of sight of each other, they will present twenty-five separate ten-mile visibility circles moving through the area. Those twenty-five ships, if formed in convoy will, however, present a visibility circle of little more than one ship; perhaps one of twelve miles radius...It can...be seen that the chances of a convoy being sighted by hostile warships are very much smaller than of a similar number of ships sailing separately.⁷⁴

Even if a raider did spot a large convoy, most of the ships would be able to escape while it was dealing with an unfortunate one or two of their number. This argument, it was claimed, demonstrated the falsity of the proposition raised from time to time that convoys could not be organised because there were too few escorts to look after them, and challenged the intuitive notion that large convoys placed too many eggs in one basket.

Second, convoy conversely also offered the best chance of finding, destroying and neutralising commerce raiders. It was, as Mahan pointed out, the best way of 'wisely applying the principle of concentration of effort to the protection of commerce'. 'The convoy system', he went on:

when properly systematised and applied,...will have more success as a defensive measure than hunting for individual marauders—a process which, even when most thoroughly planned, still resembles looking for a needle in a haystack.⁷⁵

Convoy-and-escort, in fact, can be seen as a sea control strategy, since it offers the prospect of 'a series of battles of annihilation on a small scale' and may indeed even force the enemy to make use of his major forces. Richmond pointed out how enduring the advantages of convoy-and-escort seemed to be. He added:

Instruments alter, principles remain: a fact which those who so loosely talk of the new weapons—the submarine, the aircraft, and the mine—having 'revolutionised' warfare would be wise to bear in mind.⁷⁶

But, however traditional convoy-and-escort might be, it was rarely popular with offensive-minded sailors, who tended to make much of the system's inevitable drawbacks. It was, for instance, true that ship time lost in the assembly of convoys, and the rush at ports when several hundred merchantmen arrived at once was commercially expensive: it often paid for 'runners' to break away early so as to reach port before the rest of the convoy arrived. There were also occasions when the merchantmen had neither the skill nor the discipline to keep their station in convoy. 'They behaved as all convoys that ever I saw', said Nelson, 'shamefully ill; parting company every day.'⁷⁷ In the machine age, some argued, would not the collective smoke of large numbers of freighters attract the attention of raiders who might otherwise miss fast single ships?

For such reasons, there was always a temptation to abandon convoy-and-escort when the slightest excuse offered, or to modify its operation and switch more of the effort to the alternatives discussed above. It rarely worked, however.

The debate continued into the Cold War era with some pinning their faith on 'sanitised sea lanes' instead. Others concluded that with faster and more sophisticated merchant ships, the increasing range of ASW measures, now including the use of submarines in a protective function, the balance was shifting the other way. One study concluded, 'Compared to thirty years ago the submarine merchant convoy balance has shifted dramatically in favour of the convoy.'⁷⁸ While, fortunately, there was no proof either way, it is hard to believe that military shipping and particularly valuable oil tankers and the like would have been consigned to the open ocean without direct protection.

Other Means of Defence

Even this wide range of protective devices far from exhausts the list of protective possibilities. The advent of airpower, for example, has not only added an often crucial dimension to all the measures discussed above, but has contributed new ones as well, such as the bombing of submarine pens and factories. Important contributions to the Allied victory in the Atlantic campaign were also made by the shipbuilding and repair industries, by efficiency in the management of merchant shipping at every stage in its journey, and so forth.

Political Responses

Clearly, navies have to take the security of their military sealift seriously, but these days it is hard to envisage a scenario in which a prolonged assault on commercial shipping within the context of a general war would seem a sufficiently likely contingency for navies to prepare seriously for. Instead, the world's commercial shipping is vulnerable to a range of minor attacks and harassment. In these cases naval responses will need to be carefully calibrated with a wide variety of political, military and economic responses. The main approach might well be to seek out and deal with the root causes of the problem ashore by means such as those discussed in the next three chapters.

Chapter Eight

Expeditionary Operations

‘Military Operations which can be initiated at short notice, consisting of forward deployed or rapidly deployable self-sustaining forces tailored to achieve a clearly stated objective in a foreign country.’¹

8.1 ORIGINS AND BACKGROUND

In recent years, there has been a marked increase in the attention paid to the concept of expeditionary operations, particularly but not exclusively by Western navies. Expeditionary operations are not, of course, new. A visitor to St Ann’s Church in the Naval Dockyard in Portsmouth, England, will see physical evidence of this in the epitaphs all over the walls to naval officers who fell (often ashore) in the course of the now-forgotten minor wars and conflicts of the nineteenth century. Rear-Admiral W.Arthur, who served in the Maori War (1845–47), the Kaffir War (1851–52), the Baltic Expedition (1854), the Crimean Campaign (1855) and the China War (1857–60), had a particularly busy but by no means unique career. Perhaps oddly, this preoccupation and the wealth and variety of the experience it generated, attracted little professional interest, even at the time. In the opinion of Sir John Colomb:

It is reasonable to suppose, and past history shows it to be the case, that for every war we have with a civilised power, we have about ten with savages, yet ...that fact appears to be totally passed over.²

In fact, Colomb was exaggerating. The subject was comparatively neglected in favour of professional interest in military developments in Europe, rather than totally passed over. About 25 per cent of the articles in the *Journal* of the Royal United Services Institution were about the conflicts of empire. Much of the reasoning about them was gathered together by Charles Callwell in his remarkable *Small Wars* of 1896. This synthesis of British nineteenth-century experience was added to, and refined, by the US Marine Corps in a deliberate and reflective process that culminated in 1940 with the publication of the *Small Wars Manual*.

Included within the category of the latter’s small wars were: the Philippine Insurrection (1898–1902), Philippines Moro Revolt (1903–06), Cuba (1906–09), Haiti

(1915–34), Dominican Republic (1916–24) and Nicaragua (1927–33). The British, the French and other European colonial powers had their equivalents.

Even so, most military professionals concentrated their thoughts on the nature of conventional warfare with their peers rather than on operations of this sort. There was a brief resurgence of interest in small wars and expeditionary operations, at times, during the Cold War era, for three reasons:

- The apparent need to do something about the instabilities associated with the decolonisation process.
- Cold War rivalries leaking into the Third World, requiring action there. Moreover, the necessary response could well be distinctive and specific—thus the US flirtation with counter-insurgency theories in the 1960s.
- The prospective use of nuclear weapons sometimes seemed likely to reduce the need for, or likelihood of, conventional high-intensity operations, but would not have this effect on small wars.

Navies were particularly interested in expeditionary operations, especially in those Cold War periods when strategic thinking made their role in general nuclear war ‘somewhat uncertain’.³ Since the end of the Cold War, there have been many such operations. As a result, the other services have also had to develop equivalent interests and capabilities.

Critics of expeditionary operations fall into two main groups:

- The first, more specialist type of criticism focuses on the apparent woolliness of the whole concept of expeditionary operations, dismissing it as little more than a glittery label for an untidy rag-bag of messy but undemanding things that military forces have always had to do.
- The second set of criticisms is often essentially political in origin and involves scepticism about the need for, desirability and likely success of such military activity. These concerns were clearly in evidence in both the United States and Western Europe during the early stages of the Afghanistan campaign of 2001–02 and will be addressed in turn.

8.2 DEFINITIONS

In contrast to the definition of expeditionary operations offered at the start of this chapter, the US Marine Corps *Small Wars Manual* of 1940 considered small wars to be:

Operations undertaken under executive authority, wherein military force is combined with diplomatic pressure in the internal or external affairs of another state whose government is unstable, inadequate or unsatisfactory for the preservation of life and such interests as are determined by the foreign policy of our nation.⁴

The first definition tends to focus on the nature of the force conducting it, the second on the political aims of the exercise. Both are notably broad in concept but can be separated from conventional amphibious operations even though Marines are often its main agents.

Amphibious operations are different in that they are primarily military in purpose, usually being related to other operations in the course of a conventional campaign or war. Expeditionary operations, on the other hand, may grow out of the coercive aspects of naval diplomacy and are usually highly politicised. Normally, they involve joint action of a more sustained kind, with key parts being played by ground and air forces.

If expeditionary operations are not simply conventional amphibious operations or examples of naval coercion, what can be said positively about them? The following interconnected criteria seem often to apply:

- *Operational.* Expeditionary operations are usually, if not by definition, conducted at the 'operational' level. They are best thought of as campaigns, not wars, even small ones.
- *Western?* The association of this concept with colonial campaigns of the past century reinforces the impression that these are an exclusively Western activity. Certainly, this applies to the bulk of the examples normally given. But this should not be exaggerated. Some non-Western states have conducted expeditionary operations of their own. China's Indian War of 1962, its seizure of the Paracels in 1974, its Vietnam campaign of 1979, could all be regarded as expeditionary except in that they were not conducted at great distance. India's Maldives operation of 1988 and activities in Sri Lanka at around the same time also both come into this category. Moreover, in many recent cases there has been extensive non-Western involvement in UN-mandated expeditionary operations led by the United States (most obviously, the 1991 Gulf War and Afghanistan operation of 2001–02. There are strong expeditionary overtones to most peace support operations.
- *Distant.* They are usually conducted at some distance from the homeland of the participants. Manifestly, such operations are not expeditionary for those against whom they are conducted!
- *Self-contained.* Partly because of the distance normally involved, the forces conducting expeditionary operations will tend to be self-sustaining, tailored to the specific tasks. The emphasis is on portable, mobile, self-contained but hopefully decisive force packages.
- *Limited in aim.* Again this tends to apply to the expeditionary forces, rather than to their adversaries. They are campaigns of choice, with limited aims and are usually conducted in the hope of limited costs. Such aims show a disturbing tendency to grow, however.
- *Of short duration.* Normally these operations are (very) short, although in some cases they might involve a sequence of operations over many years (US Marine Corps operations in Haiti mentioned earlier are an example of this). The Korean War of 1950–53 probably lasted too long to be regarded as an expeditionary operation, although it conforms to the notion in other ways.
- *Against varied opponents.* Although such operations will often be conducted in countries seen as threatened or obviously failing and disorderly (most nineteenth- and twentieth-century colonial campaigns, East Timor, Sierra Leone), they can be conducted against quite advanced states whose purposes are considered hostile (Korean War, Falklands, the Gulf War, Kosovo).
- *Demanding and specialised.* Thinking of expeditionary operations as relatively easy for professional forces trained for full-scale operations has often led to major difficulty (Boer War, Vietnam War). The fact that military technologies and skills useful for

first-class war are often useful for expeditionary operations, too, does not mean they always are.

- *Fought in urbanised littorals.* Although often true in the past, this criterion has become much clearer recently. This is an important topic about which much more needs to be said.
- *Highly politicised.* This too is increasingly important and deserving of much fuller treatment.

Because so many mixtures of these criteria may apply to particular cases, definitions of expeditionary operations remain imprecise, but closer examination of the last two should help define some of the general requirements for force planners.

8.3 THE POLITICAL DIMENSION

Expeditionary operations have come into greater prominence in the post Cold War era, for two major reasons:

- *Increased Disorder.* This can be seen as the consequence of the disappearance of the structured and controlled bipolarity of the Cold War era, the uneven impact of globalisation, and anti-globalisation resentments.
- *Globalisation.* This means that events in one area have greater impact in other areas than they used to. Instability in distant areas can have grave impacts on the security/prosperity of others. From this comes the argument that ‘If we do not go to the crisis, the crisis will come to us’ and a policy of developing policies, and forces, capable of intervention in case of need. The Afghanistan campaign of 2001–02 may prove a classic example of this. Post-Cold War neglect of the region led to a failing state hosting an undoubted international threat to the established order; this in turn required an expeditionary operation.

This concern for the course of events elsewhere is manifested in the heightened attention paid by the world community to human rights, partly for its own sake and partly because it is considered the only secure foundation for long-term political stability. This obviously harks back to the association of stable trade and liberal values discussed in Chapter 1. There has developed a strong interest in the defence of values, to ensure that, in Kipling’s phrase, ‘a court-house stands...where the raw blood flowed’.⁵ Such concerns have led to a decline in the concept of the sovereign immunity of states and a corresponding rise in the notion of humanitarian intervention. As the UN Secretary-General Kofi Annan has remarked, there is a ‘developing international norm in favour of intervention to protect civilians’.⁶ The result has been a spate of expeditionary operations including Iraq from 1990, Somalia 1991–92, Haiti 1994, IFOR in Bosnia 1995, Albania 1997, Sierra Leone from 1997, East Timor 1999, Kosovo 2000 and Afghanistan 2001–02.

This is highly contentious stuff. Some would dispute the whole assumption that global disorder is on the rise.⁷ Others are wary of the implication that some values are morally superior and need to be imposed on others. Still others dispute the effectiveness of remedies based on intervention, especially of a military sort. Another group worry about the costs of intervention and seek to limit them by pragmatic policies that focus not on ideals but on practicalities and degrees of risk. To the latter, the protection of the force

and the defence of a guaranteed exit may easily become the principal focus of the activity.

Such controversies have three consequences for the military forces conducting expeditionary operations.

- Because of the very differing views such operations often elicit, they are usually politicised in origin, style and consequence. Every military move at every level bears tremendous potential political and strategic significance. The levels of war become extraordinarily compressed, in that the action of an individual Marine patrolling a city street may have major consequences at the level of grand strategy.
- These are campaigns of choice. Expeditionary forces do not *have* to get involved; they can sail away. This makes politicians and the media acutely conscious of the costs, especially the human costs, of intervention. This fact greatly reinforces aversion towards casualties, even amongst prospective adversaries. It offers adversaries an obvious means of compensating for military inferiority.
- Expeditionary operations are often conducted under UN auspices of some sort, as peace support operations (PSOs). PSOs are intrinsically difficult because of the centrality of the notion of 'consent'.

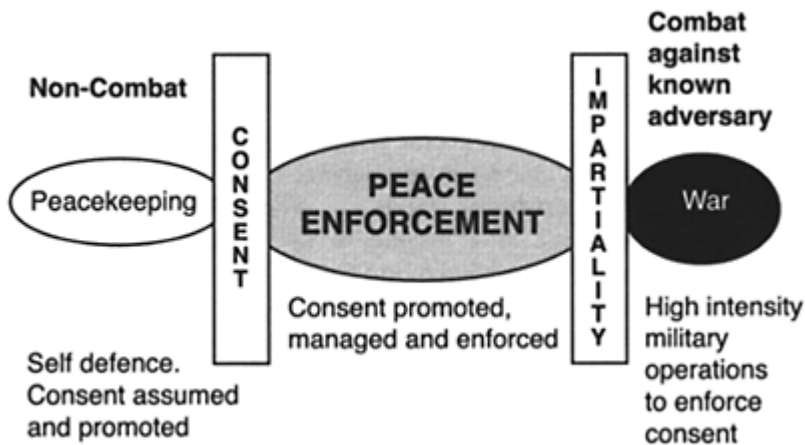


FIGURE 8.1 The Consent Hierarchy

(Source: loosely based on MOD (UK) Peace Support Operations JWP 3–50)

In peacekeeping operations, as described in Chapter 6 of the UN Charter, the consent of all sides is assumed, as is the case in Cyprus. All parties want the UN force there to hold the ring and so fully cooperate in its operations. On the other hand, in the case of peace-enforcement operations, as identified in Chapter 7 of the Charter, consent is something that has to be enforced by military coercion as was the case in the 1991 Gulf War. The interesting and difficult area is the area in the middle, where consent is partial: some parties consent, others do not—or the consent itself is limited in some way. In such cases the peace support forces therefore have to ‘manage’ consent by delicate mixtures of

persuasion and coercion. This characterised most PSOs in the former Republic of Yugoslavia.

Naval forces engaged in these three kinds of PSOs may find themselves doing very different things. Peace enforcement such as the Kuwait operation of 1990–91 required sanctions and the conduct of conventional high-intensity operations. Peacekeeping could involve the collection of weapons, monitoring and observation, provision of coastguard services, mine clearance, and the provision of safe havens. In the middle case, it could be the delicate business of enforcing safe havens, separating forces, disarming opposing forces, the guarantee/denial of movement.⁸

Few would dispute Callwell's point that 'The advantage of having a well-defined objective even for a time can...scarcely be over-rated.' But there is always a danger of 'mission creep' especially when boots hit the ground. Britain's commitment in Sierra Leone, after all, developed out of what was originally intended to be a non-combatant evacuation operation (NEO) for about 800 people. Imperceptibly, it turned into a major and sustained stabilisation operation. The political complexity of expeditionary operations makes coherent politico-strategic direction essential but difficult.⁹

8.4 THE URBAN DIMENSION

Three-quarters of the world's population live in the littorals, less than 200 miles from the sea; 80 per cent of its capital cities and nearly all major centres of international trade and military power can also be found there. The littorals are where the major trade routes intersect. They also contain sources of offshore energy and mineral resources that will prove of increasing strategic and economic importance in the twenty-first century.

Two things flow from all this. First, this is where the world's most important problems are likely to be encountered. Second, they will increasingly need to be dealt with in the kind of urbanised environment, which traditional military thinking has preferred to avoid in favour of open country and the wide oceans. The urban environment poses particular problems for the conduct of expeditionary operations.

Urban operations are distinctive in that they represent a special kind of terrain (like mountains, jungle, desert) that has to be catered for. But the requirement is even more challenging than having to prepare for another battle of Stalingrad, bad enough though that might seem. The really distinctive thing about urban operations is that they have to be conducted amongst large numbers of people, in a politically complicated situation. The US Marine Corps has vividly described this as 'three-block war':

Our enemies will not allow us to fight the 'Son of Desert Storm' but will try and draw us into a fight on their own terms, more resembling the 'Stepchild of Chechnya.' In one moment in time, our Marines will be feeding and clothing displaced refugees and providing humanitarian assistance. In the next moment, they will be holding two warring tribes apart, conducting peacekeeping operations and, finally, they will be fighting a highly lethal mid-intensity battle, all on the same day, all within three city blocks. We call this the three block war...It is an environment born of change and adaptability.¹⁰

Worse, as Figure 8.2 shows, these activities may differ from one area to another, overlap and change in a matter of moments, improving and deteriorating all at the same time. The balance between political, humanitarian and military imperatives will constantly shift.

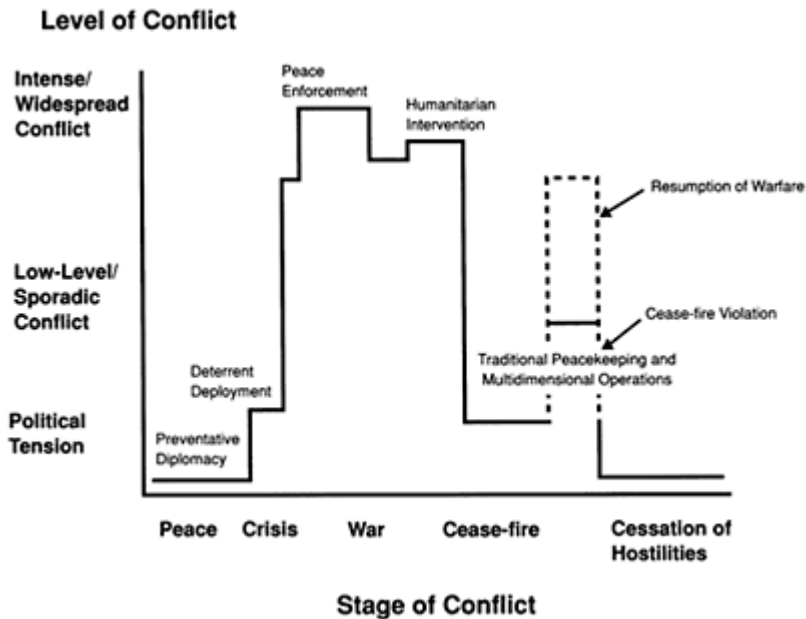


FIGURE 8.2 Peace Operations and the Stages of Conflict

(Source: Henry L. Stimson Center)

Such operations can easily absorb large numbers of military forces, have a considerable propensity to go wrong and bring with them an increased requirement to clear up afterwards. Few of the characteristics associated with urban operations are actually new in themselves: it is the combination of them all that makes the concept so challenging.

8.5 GENERAL DEMANDS ON THE MILITARY

Together with the other characteristics of expeditionary operations noted earlier, their political and urban dimensions produce some general requirements for the military forces conducting them. These include the following:

A Good Picture

Superiority in knowledge—or what the Americans call ‘situational awareness’. This should aim at telling everyone from the individual commander to the soldiers, sailors or

marines on the ground what they need to know in order to do their jobs properly. This is a question of first collecting the information and then disseminating it appropriately. The means of processing information are undoubtedly expanding exponentially, as we saw in Section 4.7, but so, unfortunately, is what expeditionary forces need to know about. In novel, politically confused and changing circumstances, gathering information is not easy, especially in large shanty towns where much basic data is simply not available. The physical conditions will often make dissemination difficult too. Many current communication systems are not especially good at reaching people inside large buildings, for example. Sophisticated, secure sea-based systems could none the less have much to offer here.

Precise Effect

The need to avoid unwanted casualties amongst the military forces themselves, innocent by-standers, and even in some cases the adversary, reinforces the need for precise weaponry, and maybe for non- or less-lethal means of coercion.

Force Protection

The attack on the USS *Cole* in 2001 reminded observers that, like all weapons systems, warships are vulnerable when unable to set up all their defensive systems. While the USS *Cole* could have made itself much less open to attack, these measures would have militated against the political signal of improving relations that the visit was supposed to have furthered. In this way, the political imperative behind expeditionary operations can pose commanders particular problems even in the basic area of force protection. The same problem applies, usually in a more acute form, to the landed forces as well. The requirement to avoid casualties in the Kosovo air campaign obliged allied air forces to fly above the heights that Serbian air defences could reach, but this sometimes militated against the required precise effect in the bombing, and carried political consequences. In such circumstances, there is a danger that force protection almost becomes the aim of the operation.

The Dangers of Decisive Force

Decisive action from concentrated force is a common and understandable aspiration amongst military people, and encouraged by many of the great masters of strategic thought—Clausewitz in particular. The gradualistic approach to the air campaign in both the Vietnam War and the Kosovo operation is widely considered to have dissipated the strategic effect that airpower provides by allowing the adversaries to become accustomed to its consequences and to find ways of exploiting its limitations. But this all-or-nothing approach has its dangers too. It may be disproportionate or inappropriate to the political aims of the operation. Because it takes time to concentrate forces, it may, moreover, come at the cost of the ‘rapid effect’ which politicians and military planners also usually want. The aspiration for this kind of decisive action may deprive expeditionary forces of their capacity to nip troubles in the bud.

We're Here to Help, but Don't Mess with Us

There is much to be said for the conventional wisdom that in most situations expeditionary forces should retain real warfighting capacity. In the East Timor operation, Major General Cosgrove wanted overwhelming force ashore on Day 1, followed within a week by the bulk of the force, robust Rules of Engagement and substantial naval and air combat power.¹¹ This deterred resistance. In contrast, 'Task Force Smith' (whose task had been to re-establish the civilian infrastructure in occupied Japan) was overwhelmed by the North Koreans when sent suddenly to the Pusan perimeter in the early days of the Korean War. Striking a balance between the two imperatives of being nice and being potentially nasty is far from easy, however. It may require compromises in force protection and decisive effect that military people will not like, but these may avoid the dangers of the so-called 'turtle mentality' whereby military forces are so weighed down by their military strength that they are unable to relate to the people they are supposed to be helping.

Outmanoeuvring Clever Adversaries

Expeditionary forces should, it seems, expect an adversary clever enough to avoid the temptation to ape their methods. Instead a resourceful and adaptive adversary can be expected to have identified the vulnerabilities of the expeditionary force and to have focused on them. This may be a question of exploiting their unfamiliarity with the terrain (jungle, mountains, city, their aversion to taking or inflicting casualties, their manifest desire for the minimum of force levels, a quick decision and early departure, their multinational composition, and so forth). The expeditionary force will therefore face a situation that is confused, dispersed, fragmented and episodic: just the kind of battlespace that military people most dislike. This plainly requires the expeditionary force (which will often be smaller in number than the adversary) to be 'manoeuvrist', in the sense of avoiding attritional encounters at the tactical level but going instead for the adversary's decisive points and centre(s) of gravity, whatever these may be.

Agility

The requirement to conduct expeditionary operations in unexpected places at very short notice and their tendency to change character once embarked upon demand high levels of all-round adaptability.

All the above characteristics could well be dismissed as blinding glimpses of the obvious, were it not for the fact that they so often either are hard to discern in particular situations or else prove to be unattainable. It is the sheer complexity of this mix of ingredients that makes expeditionary operations seem substantively different from conventional military operations, although the difference is still only a matter of degree. They are, moreover, sufficiently different from conventional operations to require examination in their own right. Expeditionary operations are manifestly not an easy option, but on the contrary have to be prepared for and thought about very rigorously.

What Naval Forces Can Offer

Navies clearly have a good deal to offer in the conduct of expeditionary operations, not least because the physical location of the operation will require transportation by, and support from, the sea. In some circumstances, they can play a key role in their own right:

Finally, maritime forces provide the quickest means of deploying a logistically self-sustaining and tactically coherent force over long distances, providing an invaluable capacity for timely presence and thus the ability to nip trouble in the bud. If this fails, they have recourse to demonstration, coercion and war-fighting; they can shape the joint operational environment in advance of heavier forces and play a role in support of them once they are established in theatre.¹²

The advantage that naval forces have in being able to operate without the need for host nation support is also highly valued. However, experience shows that navies have to prepare for this kind of thing. Packages of maritime force tailored for particular situations cannot, or at least should not, just be thrown together at the last moment. This would be a recipe for incoherence, gaps and vulnerabilities.

The mobility, flexibility and adaptability characteristic of naval task forces can also be manifested in individual platforms. Thus a nuclear-powered submarine can get to a troubled area rapidly (either covertly or not), can gather information, launch cruise missiles from up to 1,000 miles away, insert special forces, threaten or attack enemy forces thereby being able simultaneously to ‘provide presence, a capacity for coercion and the preparatory moves for warfighting’. The same individual flexibility, if of a more benign sort, was demonstrated by a single New Zealand supply ship, HMNZS *Endeavour*, off East Timor in 2000.¹³

And What They Can’t...and Therefore Need

Although naval forces can offer a wide range of services both at and from the sea, experience shows they are rarely decisive on their own. As a general rule their efforts will need to be integrated with others in joint, combined and multi-agency action.

Joint operations

Because the major focus of most expeditionary operations is on events ashore (or at least the consequence ashore of events at sea), air and ground forces will normally play a crucial role and navies will rarely find themselves in the lead. This calls for high degrees of jointery—but jointery of the right sort, in which the complementarities of the individual services are built upon so that the total is more than a sum of the parts.

After the successful British operation against the island of Elba in 1796 Nelson reported:

The harmony and good understanding between the Army and the navy employed on this occasion will, I trust, be a further proof of what may be effected by the hearty co-operation of the two services.¹⁴

To achieve this, navies may well have to compromise on their traditional (and much valued) independence of operation at sea in order to ensure that the maritime element of the force mix is properly represented and exploited. In the Gulf campaign of 1991, both the US and Royal Navies were criticised for failing to provide joint headquarters with officers of sufficient rank for this reason.¹⁵

In the UK, Gulf experience and memories of the frictions caused in the Falklands campaign by the absence of an in-theatre commander, made people aware of the need for thinking, planning, preparation and command arrangements for expeditionary operations to be sorted out on a joint basis. This led in 1994 to the creation of the Permanent Joint Force Headquarters (PJHQ). When situations arise, PJHQ, staffs should have contingency preparations and forces to hand and the capacity to deliver a trained-up Joint Force Headquarters to command them. This system proved itself in Sierra Leone, but does denote a historic shift away from the traditional emphasis on centralised naval operational command. This appears to be a universal process.

While a recognition of the need for effective cooperation between the services is obviously not new, the increased attention paid to expeditionary operations has greatly reinforced it. In sum, engagement in expeditionary operations will tend to diminish the independence of navies whilst at the same time enhancing their utility.

Combined operations

In the same way, expeditionary operations will usually be acts of coalition: multinational, conducted in the company of others. This is partly to spread the risks and costs and partly to increase and demonstrate legitimacy. As we saw in Section 3.7, multinationality is a force-multiplier, but it does add a level of complexity to every aspect of an expeditionary operation. The real problem is usually not technological but divergence in what the French call the 'interoperability of the mind', that is, attributable to different *political* perceptions of the situation and what needs to be done about it.¹⁶

German naval participation in embargo operations in the Straits of Otranto during the Bosnian crisis, for instance, was complicated by their warships having very restrictive rules of engagement (ROEs); they were not allowed to fire except in extreme self-defence, were precluded from conducting boarding operations or approaching the coast of Montenegro. For all these reasons, the force commander assigned them to picture-building activities on the furthest, somewhat separated, edge of the force.¹⁷

of NATO procedures is obviously helpful in providing the means by which navies can work efficiently with each other around the world. Developing familiarity with such procedures on an international basis provides one of the main operational incentives for the plethora of international exercises that currently take place.

Multi-agency operations

The obvious need to deal with some of the commonest causes of the problem (failures in governance, poverty, disease, resource shortage) as well as with its symptoms (conflict, disorder, the collapse of services) means that expeditionary operations also increasingly require the military to cooperate with non-governmental organisations (NGOs) and with other government departments (OGD). This may not be easy. The avowedly impartial approach usually adopted by NGOs is not always the same as that of military forces and OGDs (which obviously act in support of national policies). Moreover, NGOs will often follow distinctive, less formal procedures and are usually organised on very different lines. Even so, effective co-ordination between them and the military forces engaged in expeditionary forces remains essential.

The novelty of this requirement for sea-based forces to get heavily involved in civil affairs ashore is more apparent than real, however. At the beginning of the twentieth century, for example, US Marine Corps small wars doctrine reflected their experience and developed expertise in many civilian tasks such as public works, road-building, medical support and education. On the basis of this, the US Marines became expert in these aspects of expeditionary operations along with the more conventional military ones.¹⁸

Implications for Navies

There is nothing new about the conduct of expeditionary operations, but with the end of the Cold War there is a shift towards them and away from conflict at sea and preparation for decisive blue-water engagement against other main fleets. Nor is this shift a characteristic merely of the larger navies. A different kind of process, though with the same result, has been affecting the world's smaller navies as well. In Europe, for example, there has been a conscious shift in emphasis towards participation in expeditionary operations. Maintaining such capacities has for long been characteristic of the British, French, Spanish, Dutch and Italian Navies, but has become more noticeable. In some ways, similar movements within such navies as those of Belgium, Denmark and Germany has been more remarkable. In their case, the cultural shift has been away from their erstwhile coastal preoccupations and towards quite different projects in distant waters. The Danish Navy, for example, participated in Desert Shield and Desert Storm and sent HDMS *Tordenskold* to participate in Operation Sharpguard in the Adriatic. The extending reach of the Chinese, South Korean, Japanese and Singaporean Navies suggests that the same kind of process is at work around the Asia-Pacific as well.

As we have seen, though, expeditionary operations are no easy option for navies. They are specialised activities that need to be taken seriously. Along with all the operational requirements to be discussed in the next section, navies will need a sense of humility—for there is much that they cannot do. They should remember that little French gunboat

puffing around the coast of Africa in Joseph Conrad's *Heart of Darkness*, firing its popgun:

In the empty immensity of earth, sky and water, there she was, incomprehensible, firing into a continent. Pop, would go one of the six-inch guns; a small flame would dart and vanish, a little white smoke would disappear, a tiny projectile would give a feeble screech—and nothing happened. Nothing could happen...The steamer toiled along slowly on the edge of a black and incomprehensible frenzy...We were cut off from the comprehension of our surroundings; we glided past like phantoms, wondering and secretly appalled, as sane men would be before an enthusiastic outbreak in a madhouse.¹⁹

Conrad's bleak pessimism is a useful reminder that there are many awful situations ashore that naval forces cannot do much about, however willing and well prepared they may be.

8.7 STAGING A SEA-BASED EXPEDITION: THE MARITIME REQUIREMENTS

'Expeditions beyond the seas are all those enterprises in which large bodies of troops are conveyed in ships to a distant country, there to be landed to undertake military operations.'²⁰

As we saw in Section 2.7, two of the most interesting books for the conduct of expeditionary operations were written at the end of the nineteenth century, namely, Furse's *Military Expeditions Beyond the Seas* and Callwell's *Small Wars*. Neither in fact wrote about expeditionary operations as currently understood. Furse focuses on the conduct of amphibious operations at a distance, Callwell on 'savage' conflicts. But putting the two together shows that while expeditionary operations are quite distinctive in many ways they are not particularly new in concept. Moreover, recourse to their work conveniently identifies the main phases of an expeditionary campaign and the contribution that maritime forces can make to their prosecution.

Expeditionary Picture-Building

'But it is a very important feature in the preparation for, and the carrying out of, small wars that the regular forces are often working very much in the dark from the outset.'²¹

Stories of officers of the British Task Force having to raid the charts of the Geography Department of Portsmouth University before setting out for the Falklands in 1982 and basing their operational planning on an informal guide written by a Royal Marine sailing enthusiast some years previously show that ignorance of the operational area can be overcome, but is hardly a good basis for sound planning.

The more military planners know about the political and military situation ashore, and the earlier they know it, the better. 'Situational awareness' should include monitoring of political developments ashore, military activity and relevant geographic and oceanographic conditions. It reduces the prospect of unpleasant surprises and facilitates timely and effective planning. It is even better to be able to supplement this by 'knowledge superiority' over any adversary through 'keeping our intentions thoroughly concealed from our adversary and from his allies'.²²

Navies capable of sustaining forward presence can be expected to maintain a capacity to monitor areas of concern to them on a routine basis, as we shall see in Section 9.5, but this will need to be amplified as the expeditionary situation develops. Crucially, sea-based intelligence needs to be effectively integrated with all other forms of picture-building, especially with the strategic intelligence to be derived from satellites and UAVs.

Maritime picture-building is based on a variety of sources including:

- Submarines which can intercept communications and locate surface-to-air missile (SAM) sites, command and control centres, troop concentrations, and so forth. They can detect mines and map the sea-bottom. Although they are capable of covert and sustained operations, their ability to communicate the information they gather is sometimes limited by satellite accessibility.
- Aircraft, both manned and unmanned, sea- and land-based, provide another source of essential information and were much in evidence during the 2001–02 Afghanistan campaign, when the US Navy's P-3C Orion Maritime Patrol Aircraft (MPA) were integrated with Predator UAVs to produce a coherent information system for the US Marine Corps and other forces. Orions first impressively appeared in this capacity during the Kosovo campaign. Their 're-roling' from a previous focus on ASW is a neat illustration of the transition that many navies have made from conventional peer conflict at sea to expeditionary operations in the littoral.²³
- Surface ships have the advantage of almost unlimited endurance, the capacity to operate for almost unlimited periods from international waters and above all have the space for ambitious ranges of sensors and supporting services. For this reason also, they are the obvious means of providing for at-sea operational command of the expeditionary force and/or of any of its components should conditions ashore suggest that to be wise. During the course of the Afghanistan campaign, the French Navy announced the ordering of a new 'eavesdropping' ship to replace the intelligence-gathering AGI *Bougainville*, thereby providing a timely reminder of the role that surface ships of this sort can play in this activity.²⁴

The advantages offered by maritime picture-building were graphically demonstrated during the INTERFET operation in East Timor. The situation ashore was potentially very confusing, and those conducting the operation needed to know two things: Were elements of the Indonesian armed forces collaborating with those committing the atrocities? What,

actually, was likely to be the response of Indonesian aircraft and submarines to the arrival of foreign ships in East Timor waters? Clearly, the force commander's concept of operations depended absolutely on the answers to these two questions.

Amongst many other means of picture-building, the Australian and US Navies deployed SIGINT specialists on the RAN's frigates and patrol boats and a variety of Orion aircraft. These, together with other means of picture-building, confirmed that some elements of the Indonesian armed forces were indeed in collusion with criminal elements ashore. Moreover, there was clear evidence that Indonesian aircraft and submarines were actively tracking the ships of the expeditionary force. By a variety of means, the force commander was able to let the Indonesians know that he knew, and had evidence, of what was happening, and this appears to have played a significant part in persuading them to pull back their forces ashore and at sea. A potentially dangerous encounter between Indonesian and INTERFET forces was thereby avoided, to the great benefit of all concerned.²⁵

Of course, sea-based systems need to be thoroughly and effectively integrated with other sources of operational intelligence. Even the Americans found in the 2001–02 Afghanistan campaign that many of their systems could not 'plug and play' very easily. Perhaps because they are expensive, and less visible and intelligible to politicians than, say, ships or aircraft, information-gathering systems seem particularly vulnerable to cost-cutting exercises.²⁶

Strategic Transportation

'An expedition across the seas differs from other military operations, inasmuch as an army does not step over a frontier or advance from a selected base of operations, but is thrown into a hostile country, and all the combatants, materials and stores have to be conveyed thereto from a distance in ships. Operations of this nature demand very thorough preparations.'²⁷

By definition, expeditionary operations take place at a distance from the countries undertaking them. Accordingly, maritime forces usually have a major enabling role to play in transporting the troops needed, their equipment and supplies, into theatre. There are two aspects to strategic transportation. The first is a matter of timely conveyance; the second, of providing protection at every stage of the process.

In the case of small-scale operations, a moderate maritime task force, for example an amphibious task group, may be able to conduct the early and decisive phases of both aspects of strategic transportation on its own. Such a task group could move quickly into the area (at the rate of 400 nautical miles per day) with effective, coherent, mobile and sustainable forces, supplied from the sea. Such a force might nip a situation in the bud and/or create the conditions in which larger, heavier, slower follow-on forces can finish the job. Something of this sort occurred during Operation Palliser (off and in Sierra Leone) when the carrier HMS *Illustrious* and an Amphibious Ready Group centred on the

new LPH HMS *Ocean* with 42 Cdo Royal Marines aboard just happened to be in the area after an inspired example of the ‘contingent positioning’ discussed in Section 9.4.

There is always the danger, of course, that such relatively small-scale operations will expand unexpectedly, involving further unwanted complications and requirements. Moreover, some operations are from the start just too big to resolve in this expeditious way. The Gulf War of 1990–91, for example, was an entirely different kind of exercise for the British; strategic transportation by sea was not simply a capacity intrinsic to the nature of naval forces, but an explicit and demanding task that they had to perform. A few statistics make the essential points. For the British, while their troops arrived, in the main, by air:

Operation Granby entailed the sea movement of 260,000 tons of general cargo, plus 102,000 tons of ammunition, plus 5,200 A vehicles (fighting, tracked), plus 11,700 B and C vehicles (wheeled and specialist). Air movement was much quicker of course, but could only contribute another 53,000 tons over the whole period. Finally, some 19,000 tons of cargo a week was required once the land battle started.²⁸

This example is also a useful reminder of the *extent* to which the conduct of expeditionary operations depends on strategic transportation by sea.

The requirements of conveyance

‘In an undertaking of this nature, the large number of transports required of itself imposes a limit to the number of troops employed.’

‘The military staff have not only to deliver at the port of embarkation the troops and all that the troops will need on shore, but must also see that all parts go together, and that the sequence in which everything is embarked is in strict keeping with the order of its necessity at the place of disembarkation.’²⁹

These two quotations show that conveyance is a matter of hulls and other means of handling cargoes on the one hand and of logistic skills on the other.

New Zealand’s difficulty in locating two merchant ships capable of transporting its forces to East Timor was a salutary reminder of the unavoidable need for the necessary means of conveyance that was discussed in Section 3.6.³⁰ A little less obviously, the capacity to move large numbers of people and their equipment also includes effective loading/unloading and transportation arrangements to and from the ports of despatch and receipt, and an effective information management system to track the movement of supplies from store to consumer. It is important to remember that such considerations must include unloading requirements in the operational area. The fact that sophisticated facilities were available for expeditionary forces in the Gulf in 1990–91 (although in fact

only three ports were available) should not conceal the fact that they are often *not* available—especially in the large swathes of the Third World where expeditionary operations are most likely to take place. In this case they will need to be improvised.

Furse is clear that success depends on skill as much as hulls and facilities. While commercial firms like Fedex or the United Parcel Service have general experience to offer here, many of the issues involved are distinctive. For example, informed choices requiring military judgement are needed over such questions as whether equipment should be combat-loaded for instant use in the area of operation, or more economically and according only to the size and nature of the cargo.

Although this all sounds painfully obvious, it is worth remembering the many instances in which this kind of thing has gone wrong, from the Crimean War of 1853–56 when, famously, the horses arrived (by steam) long before their forage (by sail) to the tragic inadequacies of strategic transportation during the Gallipoli campaign of 1915. Strategic conveyance is a complicated matter and the success of the operation will often depend on getting it right.

The protective function

For that same reason, any adversary is likely to try to disrupt its every stage. Accordingly, a crucial *protective* function is intrinsic to this transportation task. The heterogeneous and possibly cumulative effects of an adversary's campaign of resistance can be seen by following through the three stages of the strategic transportation process:

- *Assembly.* A resourceful adversary might be able to disrupt the gathering together of the expeditionary forces by a media campaign designed to increase domestic opposition against the expedition. There could be acts of selective terrorism, or sabotage in the docks and on the domestic transportation system. The fact that only one lay-berth was available for the transportation of ammunition through the major port of Savannah in 2000–01 suggests surprising vulnerabilities in this area and helps explain the current growth of interest in port security in the United States and elsewhere. Disruption of the assembly of expeditionary forces could also include cyber attack on military logistic information systems.³¹
- *Passage.* Recent expeditions such as the Falklands campaign or Desert Shield/Storm faced little or no opposition on the high seas, and at the moment this situation seems likely to continue, although the 2002 attack on the *Limburg* confirms that it would be dangerous to assume that this will always be the case. The attention paid by the allies to the possible disruptive effect on supply shipping in the Mediterranean in 1990–91 by Libya's two obsolescent Foxtrot submarines shows how serious such an attack could be, not least for its possible political consequences. Greater danger might be expected in the narrow seas through which expeditionary forces may have to pass—from sea mines, Boghammer-like fast-attack craft such as those operating out of Iran during the 1980s, modern diesel submarines, aircraft, and anti-ship missiles such as the Russian SS-N-22 and its derivatives, and of course, land-based aircraft.
- *Arrival.* In January 1991, an Iraqi Scud missile landed in the Saudi port of Al-Jubayl, close to a huge stack of anti-tank ammunition and to a jetty where a number of allied ships were tied up, including a Polish hospital ship. Sea mines and sabotage against the ships and facilities of the ports of receipt may also need dealing with. In 1971,

Bangladesh's *Mukti Bahini* frogmen were very successful in just such a campaign against Pakistani ships in the port of Chittagong. All of this has reinforced concern for the security of expeditionary forces in and off the ports of receipt.³²

The variety of present and future threats to strategic transportation needs is clearly to be taken seriously. In the East Timor operation it certainly was:

Interfet warships escorted both naval replenishment ships and chartered merchant ships carrying supplies to East Timor; without the protection provided by the warships it is highly likely that many of the chartered merchant ships would not have agreed to sail to East Timor.³³

Inevitably, these activities merge with those of force protection.

Force Protection

'Of all the conditions necessary for effecting a landing on a hostile coast, the most essential one is to possess a decided superiority over the adversary at sea.'³⁴

By definition, expeditionary operations take place in the littoral, which British maritime doctrine defines as

The area from the open ocean to the shore which must be controlled to support operations ashore, and the area inland from the shore which must be supported and defended from the sea.³⁵

The actual extent of the area is largely a function of the reach of the weaponry involved. The Afghanistan operation of 2001–02 showed that for the United States the littoral could extend hundreds of miles inland. Other navies take a more modest view of its extent, but all are agreed that the littoral environment is a highly complex one.

It is a congested place, full of neutral and allied shipping, oil-rigs, buoys, coastline clutter, islands, reefs and shallows and complicated underwater profiles. Expeditionary forces operating there will be well within reach of hostile aircraft, shore-based anti-ship missiles and coastal artillery. Fast-attack craft may be expected, along with coastal submarines and minefields. Because of the short distances involved, attacks will be sudden, unexpected, coming from unpredictable axes of threat and requiring instantaneous responses. The narrowness and shallowness of the waters will often make it difficult for large surface ships or submarines to manoeuvre freely. Less obviously, air space limitations might often pose equivalent challenges for expeditionary aircraft too.

This litany of possible evils shows how challenging the littoral can be, and experience in the Gulf in the last 20 years of the twentieth century provides many examples of the range of threats that expeditionary forces could find themselves facing. But their real challenge is to overcome such threats and to protect every aspect of the operation with sufficient margin in capability to be able to project effective military power ashore. If

they cannot do this, if their whole effort is absorbed by self-defence, then there will be little point in their being there in the first place.

What they have to win, in fact, is a 'battle for access' in which

twenty-first century enemies might use sophisticated, low-cost weapons to gain an asymmetric advantage in the contest for local control of the sea. Such an opponent will not seek to win a battle with a major naval power, but rather to make the cost of its defeat prohibitive.³⁶

The main challenges to expeditionary forces have already been identified in Section 4.6. They include:

Minewarfare

The North Korean mine-threat famously impeded allied operations during the Korean War of 1950–53. Forty years later the mine threat was equally potent in the Gulf where some 300 bottom mines and 744 moored mines were recovered by Coalition forces and another 233 were found floating or beached. Many of these mines had been laid incorrectly and would not have gone off anyway; moreover they were laid much further out than the allies had expected, probably too far out for the Iraqis to have any real prospect of defending them. Even so, they were a real constraint on Coalition planning, and had large-scale amphibious operations been necessary the preliminary MCM effort required would have been very considerable. Minefields rarely defeat maritime forces (the Turkish success in defending the Dardanelles against the British and French Navies in 1915 being one striking exception) but they do impose delays and costs, especially when adequately defended, and so can act as a significant limit to an expeditionary force's freedom to manoeuvre.³⁷

The effectiveness of the sea mine lies in the fact that the adversary has the advantage of knowing the waters through which the expeditionary forces need to pass in order to achieve their objectives. Mines are cheap and come in a huge variety. In 1991, Coalition forces had to cope with a bewildering range of mines from veterans of the First World War to the latest and most sophisticated Italian types. Moreover, the sea bottom in the littorals is notorious for being covered in a remarkable diversity of old iron (wrecks, oil drums, old washing machines—the list is endless) and this makes mine detection extremely difficult. New unmanned underwater vehicles (UUVs) may, however, help.

Littoral anti-submarine warfare (ASW)

The difficulties encountered by the British Falklands Task Force in dealing with Argentine Type-209 coastal diesel submarines (SSKs) serves as a useful reminder of the complexity of conducting ASW in the littoral. Here the SSK can simply lurk in familiar waters and, acting as a weapon of position, wait for its targets to approach. The high ambient noise of coastal waters, their shallowness and complicated salinity and temperature levels make coastal ASW difficult even for the most proficient, as the Swedish Navy's problem in tracking down suspected submarines in their own waters in the 1980s indicates.³⁸ Modern SSKs can reduce their traditional vulnerability by

operating in battery mode for up to 72 hours, and air-independent propulsion is coming of age. There will be responses to all this of course, such as multistatic active radar, for instance, but the current technical ASW challenge in littoral waters is unlikely to diminish significantly in the next few years. On the other hand, the number of countries able to mount and maintain such a sophisticated challenge is not great. Nor are most of them likely to be the venue for expeditionary operations.

Area air and anti-missile defence

The Scud attack on Al-Jubayl already referred to and the proliferation of anti-ship missiles of increasing range, stealthiness, speed and homing capacity explain the current interest in theatre ballistic missile defence and the attention paid to a variety of soft- and hard-kill systems, discussed in Section 7.6.

British surface ship losses to Argentine aircraft in 1982 and the surprise Iraqi air attack on the USS *Stark* in 1987 are potent reminders of the potential vulnerability of surface warships in narrow waters if sufficient air defences are not in place. These defences should include counter-air activity against hostile air bases, airborne early warning (AEW), protective combat air patrols (CAP) and sufficient sensors, anti-aircraft missiles and guns and damage-control facilities on the ships themselves. Sophisticated expeditionary forces have so far been able to deal with this range of problems without too much difficulty, but the relatively more advanced the opponent the greater the challenge.

Gulf experience reveals the particular problem faced by expeditionary forces when the air threat is combined with something else. The tragic USS *Vincennes* affair, when an innocent Iranian airbus was mistakenly shot down, shows the 'overload' problem that can arise when a task force operating in congested waters is having to deal with harassment by Iranian Boghammer fast-attack craft and possible air threats *at the same time*. Combinations of threats are the real problem. But so congested are littoral waters that this kind of thing could often happen unless effective counter-measures are taken.

Moreover, political constraints may make the commander's task more difficult. The Iraqis were allowed to lay their mines in autumn 1990, and indeed were not closely monitored in doing so, because of political constraints on Coalition naval movements north of the Saudi-Kuwait border. As it turned out, this was a serious mistake which greatly complicated Coalition operations afterwards. In the East Timor operation, the force commander was extremely anxious to avoid engaging Indonesian submarines and aircraft. Detecting them, and warning them off before they could launch attacks was a demanding aspiration, but a politically necessary one.³⁹

Force protection: overall maritime responses

While these are the main challenges in force protection facing expeditionary forces, it is difficult to generalise about their extent, and about the requirement to respond. In the Gulf War, force protection had to be taken very seriously; in the case of the British operation off Sierra Leone and the Coalition operations against Afghanistan it was not a serious operational priority, although in both cases routine precautions had of course to be taken. In the case of Allied operations in the Adriatic and the East Timor operation, the situation was somewhere between these two extremes.

None the less, these threats, especially in combination, require serious and sophisticated response. Even in a relatively benign environment, the conduct of expeditionary operations demands high levels of skill and technologically advanced sensors and weaponry and require, especially for the major Western navies, a paradigm shift away from the open-ocean preoccupations of the Cold War years. The fact that expeditionary operations are almost invariably wars of choice for the expeditionary forces in which there are high levels of casualty aversion, moreover, increases the need to take the fewest possible chances.

For the future, two schools of thought seem to be emerging, and typically they focus on the question of the future shape of the fleet and the continued role of the large surface ship in the conduct of expeditionary operations.

The first school focuses on the unavoidably large size of the ships carrying the military personnel and supplies and of the air support that they will need. Large conventional platforms of this sort are basically unavoidable, they conclude. Moreover, each of the threats discussed above can be countered individually or in concert. For instance, there were doubts about the wisdom of putting large ships, especially aircraft carriers, into such narrow waters as the Gulf in 1990–91. In the event of course, the risk was taken, and the Iraqi fast-attack craft (FAC) threat proved a chimera, partly because they were so ineptly used by the Iraqis but mainly because the Coalition's air supremacy provided the conditions in which British and US helicopters could destroy them all before they became a threat. Throughout history, in short, every new weapon has spawned its counter, and this will continue. Moreover, the advantages of size show that while FACs continue to proliferate amongst the world's smaller navies, they are tending to get bigger and more powerful, mimicking the capabilities of the larger warships they are supposed by some to be replacing!

But against this conventional view of the future for force protection should be set a more radical view that argues:

It is better to fight fire with fire using expendable, missile carrying aircraft or small surface craft...In fact, ever since the introduction of numerous torpedo boats, coastal submarines, and minefields early in the...twentieth... century, contested coastal waters have been taboo for capital ships and the nearly exclusive province of flotillas of small, swift, lethal fast-attack craft.⁴⁰

This approach is linked to Admiral Cebrowski's so-called 'Streetfighter' concept. Here, the offensive and defensive power of the fleet is disaggregated amongst a large number of small and individually less valuable platforms which are networked through an information and control system to provide the same combat power as a conventional fleet. Indeed, with new directed energy weapons, fleet defence might be revolutionised in the years to come with a decided move away from the concentration of assets and towards dispersed tactics, designed to deceive and confuse the adversary. Although compromise between the two positions is the most likely outcome, this argument about the future of force protection and fleet defence is set to run for many years yet.

Force Insertion and Extraction

Almost by definition, expeditionary operations will require ‘boots on the ground’, because it is ashore that most of the problems which will have sparked the expeditionary operation in the first place will be found and must be dealt with. Accordingly the capacity to insert forces ashore is central to the whole concept of expeditionary operations. Everything else facilitates it.

Generally, two types of ground forces will be required—special forces and light infantry, especially in the robust shape of marines and airborne/para forces. The Gulf operations of 1991 and 2003 were exceptional in the prominence they gave heavy metal in main battle tanks and artillery. Generally such forces will not be required in such large numbers. The distinctive nature of these special forces and light infantry determines the nature and conduct of the force insertion and extraction task thereby raising the issue of *why* special forces and light infantry are so central to the conduct of expeditionary operations.

Why special forces?

Special forces vary around the world. They have a particularly important picture-building role. They conduct reconnaissance missions, locate key military targets (in Iraq, looking above all for mobile Scud launchers), link up with local forces where appropriate, and generally prepare the way for larger forces later. It is not their function to engage in sustained combat.

Tending to operate in small teams, they can be inserted by a great variety of covert means—by parachute, helicopter, submarine, swimmer-delivery vehicles of various sorts or by a variety of stealthy surface craft. The US Navy is seriously considering the conversion of old ballistic missile firing submarines for this purpose (evidently at the rate of 120 soldiers per missile tube!). The North Koreans are specialists in the use of Sang and Yugo midget submarines and two-man swimmer-delivery vehicles. The British see the delivery of special forces as being one of the main roles of their SSNs. Other nations play their own variations of the tune.

Why marines?

‘History suggests God is on the side of the bigger battalions—unless the smaller battalions have a better idea.’⁴¹

Although some of the points that follow apply equally well to airborne and parachute forces, marines have particular advantages for those conducting expeditionary operations. Liddell Hart made many of the essential points:

A self contained and sea based force is the best kind of fire extinguisher because of its flexibility, reliability, logistic simplicity and relative economy.⁴²

1. *Sea-portability*. Liddell Hart missed one of the key ingredients that marines, being sea-portable and sea-based, can provide—the need for speed. As Kofi Annan remarked in the last year of the old century, ‘One of the problems with Peacekeeping has been the speed of deployment. With each delay the problems get worse.’⁴³ Being sea-portable, marines can be moved into most operating areas with little political constraint. For the same reason, their limited logistic ‘footprint’ ashore requires much less in the way of depots and bases and so presents fewer targets and a reduced need for host-nation support. The 1992 attack on the Khobar Towers in Saudi Arabia shows that land bases can be vulnerable. Sea-basing reduces such vulnerabilities.
2. *Reach*. As we saw in Sections 2.7 and 7.4, the modern emphasis on STOM means that modern well-equipped marine forces can have very considerable reach. In the case of the Afghanistan campaign, 600 US Marines from the USS *Peleliu* and *Bataan* were flown 400 miles to Bibi Tera airfield in four hours, probably the longest fastest operational deployment in US Marine Corps history. This contrasts strongly with the ‘operational pause’ endured by the British in 1982 resulting from the difficult business of getting the forces ashore at San Carlos, sorting them out and equipping them before they advanced inland towards their objective. This delay provided the Argentinians with potential targets and caused the British government some political difficulty. Nowadays the idea would be to get the Marines to their objective much faster and by more direct means. For this reason, US Marines have generally been re-designated from ‘amphibious’ to ‘expeditionary’, although ‘hitting the beach’ is likely to remain one of their many accomplishments. Given their previous veneration for such famous battles as Iwo Jima and Okinawa, this is a major paradigm shift.

Interestingly, the French Marines have required no such shift in emphasis. Their accent has always been expeditionary rather than amphibious. They are part of the army not the navy, continue to be regarded as an elite light infantry, and have been extensively used in France’s overseas departments and colonies (Reunion, New Caledonia, Tahiti) with a substantial training role in francophone Africa.⁴⁴

This versatility is, however, something of a hall-mark for all marines.

3. *Light and self-contained*. One consequence of this emphasis on sea-portability, speed, manoeuvre and, increasingly, small team-based operations, is that marine forces will tend to be self-contained, with delegated command, and ‘light’ in terms of armour and firepower. The contrast between marines and the army was exemplified in the Vietnam War. In contrast to the Army, with its preference for the big firepower intensive battle, the US Marines were good at counter-insurgency and had an appropriate small wars doctrine derived from long ‘Banana Wars’ experience.⁴⁵

Very often outnumbered and sometimes outgunned, marines have had to develop the approach of out-thinking an opponent they were unable to overpower through brute strength. Their innovative proclivities have recently produced the concepts, skills and capabilities of OMFTS, discussed in Sections 2.7 and 7.4, which are so appropriate to expeditionary operations.⁴⁶

The US Marines therefore depend on networked command and fire and logistic support from the fleet or from land-based air. They are not intended in the main to engage in sustained, attritional operations against heavy enemy forces. Should heavy enemy forces need to be dealt with, marines will be, in their own favourite phrase, 'the tip of the spear', while the army provides the shaft which follows it. They are light enough to get there fast, but heavy enough to remain until help arrives. Such things are none the less relative. Western marines have far more firepower than most of the forces they are likely to encounter in expeditionary operations around the Third World.

4. *Withdrawability and Poise.* Because marine forces are not supposed to get enmeshed with enemy forces, but are on the contrary to be always ready to disengage so they can be poised offshore or re-inserted elsewhere, they are especially trained for the 'fighting withdrawal'. Given its potential confusions, morale problems, reducing battlespace and so forth, this is one of the most difficult of all military manoeuvres, but crucial for the conduct of expeditionary operations.
5. *Experience.* Quite simply, marines are used to expeditionary operations. They tend to have a particularly global outlook and a wide and varied set of operational interests. As we saw in Section 2.5, they have long been specialised in the business of small wars, and have developed the habits of thought that go with them. The diversity of skills this has required suits them for counter-insurgency tasks, humanitarian relief, PSOs, NEOs and service-protected evacuations (SPEs). It was no coincidence that marines were chosen to lead in the relief operation of the Kurdish parts of Iraq in the immediate aftermath of the 1991 Gulf War.

The conceptual gap between the army and the marines is likely to narrow however, partly because, in the light of experience in the Gulf, there has been something of a tendency in the marines to make themselves rather heavier in response to the challenge of operating against heavier adversaries in the open, or in a difficult urban environment. Moreover, under the leadership of people like the United States' General Shinsecki, many of the world's armies are going 'lighter' in preparation for a more expeditionary future.⁴⁷

Sea-based support for landed forces

Either way, landed forces will require transport and, usually being quite light, will need sea-based fire support. Accordingly, around the world, navies are building up their amphibious warfare capabilities. This may be a question of enhancing it (in the case of the United States, Britain, France, the Netherlands, Spain and Italy) or of developing it (Australia, Japan, Singapore) or of beginning to get interested (Malaysia, South Korea). A new type of multi-role amphibious warfare ship is appearing that will offer the amphibious ready group (ARG) or its equivalent all-round and dedicated support in addition to that provided by other non-specialist naval forces in the task group. The rationale for this is that the first duty of these other maritime forces may need to be force protection, rather than the support of landed forces.

The same ships and services will also be a means of extracting the force, either when difficulties arise or when the mission is accomplished, for as Furse reminds us, 'An operation for which it is necessary to provide, in all expeditions beyond the seas, is the

re-embarkation of the army'. The ultimate means of boosting the confidence of an expeditionary force ashore is the traditional ability of the navy to pull them out safely if things go wrong. During the difficult allied operations in the former republic of Yugoslavia, the knowledge that there was a secure line of retreat should things go awry gave peacekeeping forces the confidence to continue with their difficult work.⁴⁸

Maritime Firepower

'In all conjoint expeditions of the army and navy, the landing and transporting of cannon is performed by the seamen, after which the artillery officers mount the guns and complete the batteries.'⁴⁹

Because in expeditionary operations light sea-portable forces cannot take much in the way of artillery with them, fire support needs to be supplied by the fleet, especially in circumstances where land-based air support is either unavailable (the Falklands, Sierra Leone) or insufficient (Desert Storm, Yugoslavia, Afghanistan). These expeditionary operations show that such support comes in three main forms: sea-launched cruise missiles, carrier-based aviation and naval gunfire support (NGS). Experience over the past 20 years shows that such fire support needs to be timely, discriminating and accurate, and capable of unexpectedly sustained operation. It now comes in the following varieties.

Sea-launched cruise missiles

The Afghanistan campaign was the tenth operational occasion in which Tomahawk TLAM cruise missiles have been used. Technical improvements have much increased their accuracy and reliability over this period. Fired from submarine or surface ship, they have shown themselves to be relatively affordable, accurate and reliable. With a range in excess of 1,000 nautical miles and access to the global positioning system (GPS), they present few risks to the attacker.

Although regarded by some as weapons of coercion and strategic punishment, they have also shown themselves to be particularly useful as force enablers. In Desert Storm and Afghanistan they were used especially in the early stages of an integrated and properly de-conflicted air campaign, essentially to degrade the enemy's immediate capacity to resist subsequent air attacks. While they could be used for more general fire-support, this would require much larger inventories and it might be more cost-effective to invest in more aircraft or modern naval gunfire support (NGS) systems instead. An increasing number of navies are none the less considering the acquisition of sea-launched cruise missiles, including the Australians, Canadians, Dutch, French, Israeli, Japanese, Spanish and Italians.⁵⁰

Carrier aviation

The operational effectiveness of all types of airpower in the conduct of expeditionary operations has increased hugely over the last few years. In Desert Storm only some 10 per cent of the bombs dropped were 'smart'; in Afghanistan only 10 per cent were not. It was claimed that American airpower now had the capacity to deal with targets as they emerged. Thus a reconnaissance aircraft identifies a spike in satellite phone communications in a known Taliban office, a Predator goes in to have a look, and the consequent real-time video picture of bodyguards lounging around outside is transmitted to targeting teams in Saudi Arabia and USCENCOM at Tampa, Florida. GPS co-ordinates are worked out, sent, punched into the cockpit of a Navy F-14 Tomcat which completes the cycle by dropping a precision bomb on target, before going off to wait for the next order.⁵¹ It is indeed now a question of distributing targets to aircraft, not aircraft to targets. This is not to say that things always work out with such clockwork precision—because they manifestly do not; it is merely to establish that air support of expeditionary operations is usually indispensable and is now potentially of very high quality indeed.

As we saw in Section 4.5, the question of *how* that airpower is to be delivered is a complicated one. With the extraordinary range of modern, and specifically American, bombers it is hard to imagine an expeditionary operation anywhere that is not within range of secure land bases somewhere or other. In recognition of the strategic benefits this may produce, the US Air Force has recently reconfigured itself into an 'Air Expeditionary Force'. But this capacity is available to very few countries, can be subject to political air transit problems and the 2001/2 Afghanistan operation showed that it can be very expensive in terms of tanker aircraft.

Shorter-range land-based aircraft have much to offer too, if available. Typically, they manage higher sortie generation rates and a higher proportion of attack to defensive aircraft than can carriers. But bases may not be available, or there may be political, operational or climatic limitations on the performance of aircraft operating from them. Carrier aircraft, surprisingly, tended to be closer to the action in both the Gulf and Adriatic operations of the 1990s, and are of course largely independent of host nation support.

None the less, all this airpower comes at considerable cost and effort, not just in terms of the aircraft and the weaponry but also of the huge support infrastructure that keeps it going. The fact that so many countries are looking at the procurement of aircraft carriers despite their apparent cost amply testifies to their demonstrated utility in support of expeditionary operations as a crucial part of the general airpower package. However, the fact that even in the benign air environment prevailing over Afghanistan, aircraft crashed and their crews were either killed or had to be located and rescued, both on land and at sea, points to a continuing disadvantage that manned aircraft have in comparison with cruise missiles, naval artillery and fast developing UAVs.

Naval gunfire support (NGS)

Navies are well suited to provide this kind of support because, for centuries, concentrated firepower has been their principal preoccupation in the struggle for command of the sea.

The relative power of sea-based artillery over its land-based equivalent is graphically illustrated by a comparison between the guns of Napoleon's Grand Armée and Nelson's battlefleet. The French Army had 366 6–12 lb cannon, needing 9,000 artillerymen, together with enormous horse and fodder *matériel* to move it. The fleet, on the other hand, had no less than 2,232 cannon of 121bs and more, requiring only 14,000 men and much less in the way of *matériel*. In brief, six times as many guns, of much heavier calibre, could be transported daily by Nelson's fleet as by Napoleon's army, at one-fifth of the logistic costs and at five times the speed.⁵²

Occasionally, the prospect of naval bombardment has been effective in its own right. In 1840, the Royal Navy delivered a devastatingly successful bombardment of Acre in one of the cheapest major victories it has ever secured purely by the power of its artillery.

More commonly, NGS supports landed forces. Its nineteenth-century success was replicated in the very different conditions of the twentieth, for example during the Second World War, the Falklands campaign and Desert Storm. Furthermore, with the arrival of extended range gun munitions (ERGM) surface ships will be able to fire smarter, guided projectiles over far greater distances.

Historically, naval artillery could be turned to other purposes as well. It could be taken ashore and used in direct support of the army ashore. Initially the notion was that the navy would provide the guns but the army should man them, as we saw at the start of this section. This was not sensible and it was soon realised that seamen had better fire their guns rather than simply hand them over to the army. In the Boer War, naval guns were unshipped and taken far inland, complete with naval crews, to offer direct support for the army. Often, naval guns (12-pounders and 4.7-inch) were the biggest and most accurate guns available to the British. During that conflict, Captain Percy Scott even came up with the idea of an armoured train which for some time was very effective against the Boers. Even more remarkably during the course of the 1918–20 War of Intervention between Soviet Russia and the Western Allies, the crew of the cruiser HMS *Suffolk* built and manned a heavily armed and armoured train that fought the Bolsheviks thousands of miles from sea in the middle of Siberia—arguably the longest-range naval battle ever fought. This was a matter of brilliant improvisation, with forces essentially intended for, and justified by, the performance of other tasks.⁵³

The purpose-built river gun-boats which assisted Lord Kitchener in the Sudan campaign of 1896–99, on the other hand, represented an entirely different approach. These vessels were a crucial part of Kitchener's overall firepower. His force of 25,000 British, Egyptian and Sudanese troops had 44 guns and 20 maxim guns on land and 36 guns and 24 maxims on the gunboats. Gunboats provided extra mobility and enhanced Kitchener's capacity to manoeuvre.⁵⁴ The riverine forces developed by the US Navy in the Vietnam War is a more recent example. Neither Kitchener's nor Westmorland's gunboats had any utility whatsoever in the standard naval conflict of the time, and so nicely illustrate the way in which the naval requirements of expeditionary operations and of sea control can differ widely.

The fact that navies seem often able to adapt systems to land operations that were actually designed for something else raises the issue of divided aims, explains why marines generally want dedicated fire-support expressly designed to help them achieve their purposes and are wary of relying on systems which may be switched off if maritime forces unexpectedly encounter shifting priorities.

Sea-Based Logistics

‘In fact, war is not fighting and patrolling and bullets and knocks; it is one constant worry about transport and food and forage and ammunition.’

‘I don’t know what the hell “logistics” is, but I need a lot of it.’

Admiral Ernest J. King⁵⁵

These two quotations make all the essential points. The success of all military operations depends heavily on the success of the system by which supplies and equipment are provided for the forces engaged. As Callwell remarks ‘the administration of supply’ and the ‘strategy of the campaign’ are interdependent in small wars.⁵⁶

The dependence of modern military forces on their supplies has, moreover, greatly increased since the Second World War. In Desert Storm the UK First Armoured Division, when preparing to attack, needed 1,200 tons of ammunition, 450 tons of fuel, 350 tons of water and 30,000 individual rations per day, the equivalent of the requirements of an entire army group in the 1944 Normandy landings.⁵⁷ Getting all the supplies needed for the Coalition for Desert Storm was probably the largest and fastest movement of material to a single operating area in the history of warfare, with the exception of the Normandy campaign itself, and that took two years to prepare.

If anything, the logistic demands of expeditionary operations are even worse, since the physical distance involved between the theatre of operation and the home base imposes particular challenges. The transportation infrastructure in the areas of concern will often be primitive or under attack, or both, thereby throwing the expeditionary forces very much back on their own resources. And, as we have seen, the current emphasis in expeditionary operations on STOM and the avoidance of large vulnerable stockpiles on the beach or the jetty or anywhere else where they could be attacked poses yet more challenges for today’s sea-based logisticians.

The aspiration is for ‘focused’ logistics such that the logistics plan should be entirely responsive to each phase of the campaign and on what might happen afterwards (in current military jargon, on the ‘branches and sequels’). The plan has to be able to sustain ‘teeth arms’ in whatever they happen to be doing and, ideally, to be able to react rapidly to unplanned contingencies. In the Afghanistan operation, according to Admiral David C. Brewer, Commander of Military Sealift Command,

We found that we’ve had to anticipate possible changes in strategy and operational level focus in order to ensure that we were ready for changes in sealift tasking.⁵⁸

Current discussion of ways and means of achieving these ends include the acquisition of modern auxiliary supply ships (AORs), the establishment of small-scale versions of the United States’ Military Sealift Command, and a developing interest in fastships including, after the success of the Australian HMAS *Fervis Bay* in the East Timor operation, catamarans and large floating mobile offshore basing systems. Some argue that

the latter may prove the only way of meeting the expanding logistics needs of expeditionary forces; others conclude that the idea merely expensively transfers depot vulnerability from shore to sea, and worry about the practicality of the idea when sea states are less than totally benign.

8.8 CONCLUSIONS

Four tentative conclusions emerge from this review of modern expeditionary operations.

First, they are by no means new. Navies around the world have conducted them for centuries. They were indeed the main activity of the British and other European navies during the nineteenth century. They continued throughout the twentieth century, overshadowed perhaps by the greater attention that had to be paid to classic peer-conflict on the open ocean resulting from the urgent demands of the First and Second World Wars and the Cold War. With the conclusion of the latter, the attention of many navies has reverted to the conduct of expeditionary operations.

Second, some have wondered how permanent a shift this will prove to be in the twenty-first century. On the one hand, the emergence of new maritime powers such as Japan and China, or the recovery of Russia, might lead to a resurgence of old-fashioned maritime rivalry on the high seas. Others speculate about the long-term consequence of the attacks such as the al-Qaeda assault on the World Trade Center towers in September 2001. If one of the justifications for expeditionary operations is the space—or distance—between the homeland and the political instabilities threatening world peace and prosperity, that attack really closed such gaps and brought the crisis home. The reluctance of potential expeditionary powers to get involved in other people's quarrels might be increased if this is the kind of thing that can happen in response. Additionally, such outrages might lead to a switch of effort away from expeditionary operations towards all aspects of homeland defence. It is possible to argue from such points that we might at some future time unexpectedly find ourselves entering a 'post-expeditionary' era.⁵⁹

Third, the realisation that expeditionary operations are indeed difficult, expensive and demanding might encourage a reluctance to participate. They are not easy job-preservation options for navies deprived by international developments of their normal adversaries. The lesson seems to be repeated over and over again. To engage successfully in expeditionary operations, navies need first-class capabilities of the sort equivalent to those normally associated with high-intensity operations with their peers. This is partly because of casualty aversion, and partly in consequence of the proliferation of serious maritime capabilities. To illustrate the point, the forces engaged in the East Timor operation found themselves being shadowed by Indonesian Type-209 SSKs with much greater tactical flare than had been anticipated. This required complex counter-measures and 'illustrates the importance of sophisticated force protection to a contemporary peace making operation in a maritime littoral environment'.⁶⁰ If expeditionary operations are to be conducted, they need to be conducted very seriously.

Fourth, expeditionary operations *are* different. As Callwell remarked:

The conduct of small wars is in fact in certain respects an art by itself, diverging widely from what is adapted to the conditions of regular warfare...⁶¹

In particular, they are highly politicised to an extent that 'normal' conflicts are not. For evidence of this we may need to look no further than the political restraints on MCM, or even monitoring, activity north of the Saudi—Kuwait border which hugely complicated subsequent maritime operations in Desert Storm. The fact that these operations take place in a littoral environment, moreover, also makes for substantial differences in the conduct of the various maritime disciplines—for example, ASW (because of the complexity of the underwater environment in shallow, narrow seas) and AAW (because of the background clutter caused by nearby landmasses). As a result, expeditionary forces require high-grade equipment and skills that are specific to their particular task.

8.9 A HUMANITARIAN POSTSCRIPT

'We have heard your miseries as far as Tyre
And seen the desolation of your streets

...And then our ships happily you may think
...Are stor'd with corn, to make your needy bread
And give them life, whom hunger starv'd half dead.'

Shakespeare, *Pericles*, I/4

Those engaging in expeditionary operations usually do so in the expectation that it will contribute to international stability, and their activities are typically directed against governments or other forces that seem to threaten it. But physical and human disasters such as cyclones, earthquakes and civil wars can threaten good order too. Humanitarian operations to restore good order from the sea by preventing or alleviating distress have become very common. They include:

- Sea-based attacks on the forces of disorder. Operations against pirate or slave-trading centres used once to be a commonplace naval activity. In 1998, US Marines helicoptered into an inaccessible part of St Vincent to burn cannabis plants.⁶²
- Humanitarian relief operations in the aftermath of natural disasters, such as Operation Sea Angel in 1991 in which eight US Navy ships and 8,000 naval/military personnel distributed relief and assisted the authorities of Bangladesh in the wake of the dreadful floods of that year.⁶³ Many would argue that with the advent of global warming such activities are likely to be even more common in the future than they have been in the past. Already there are about 70 operations of this sort every year.
- Non-combatant evacuation operations, where the object is to move people from areas where deteriorating security situations are putting lives at risk. The Royal Navy

conducted such operations from Cyprus in 1974, Aden in 1986, Sierra Leone in 2000. There are dozens of other examples.

- Naval activity may be directed at helping local authorities cope with the general problems of governance. In 1999, the Canadian Coastguard provided training and equipment to the Palestinian Coastal Police to help develop a search and rescue capacity, part of a maritime infrastructure that, other things being equal, would help the Palestinian Authority develop the natural resources of the area, its own economy and thus contribute to the area's stability. Australian and New Zealand maritime forces likewise offer sea-based support to the struggling microstates of the South Pacific.

Their intrinsic characteristics make navies good at this sort of thing. The 1992 activities of Canada's naval auxiliary HMCS *Preserver* off Somalia illustrates the point. Its three helicopters and boats, including three small landing craft, were invaluable at transporting people and materials from ship to shore. It had extensive medical facilities and was able to produce much drinking water in conditions in which this was a scarce commodity. Its workshops provided much technical and engineering assistance. Its galleys could feed over 300 people, and it provided rest and recuperation for people engaged in the arduous business of relief. Its communications suite enabled it to link in with all other aspects of the relief operation and gave Canada the means to make a vital contribution to the successful conduct of a relief operation a long way from home.⁶⁴

Naval forces have a mobility that means they are often the first to arrive in a crisis area in strength and thus often deliver the military capacity needed to provide the secure environment in which humanitarian relief operations (including those of the relief agencies) can progress.

Much of the capacity to perform these functions derives naturally from the skills, hulls and equipment needed to conduct 'normal' military operations—and it is generally true that the more militarily capable the force is (and therefore the more expensive!), the more help it can offer. The justly famous Royal Navy Disaster School⁶⁵ illustrates the difference that sheer military professionalism makes to the conduct of such relief operations.

There are, however, costs and tensions. While modern military forces are expected to deliver everything from bombs to babies, the more they focus on one end of the spectrum, the less time, energy and effort will be available at the other. Navies have to strike their own future balances in this area. Their individual answers will reflect judgements on how important and frequent such operations are thought to be in comparison with the other functions they are required to perform, and on the particular contribution they can make as compared to non-military relief agencies.

Chapter Nine

Naval Diplomacy

‘They [the fleet] would then pass along the coast before the eyes of the other cities and display the visible power of Athens.’¹

9.1 COVERAGE OF NAVAL DIPLOMACY IN THE LITERATURE: WHO SAID WHAT?

Despite the fact that naval diplomacy is as old as civilisation, the great masters of maritime thought only partially dealt with its complexities. Of course, they nearly all made, even laboured, the point that maritime strategy and the use of naval forces should be appropriate to the overall national strategy and the political purposes the country’s leaders hoped to achieve. ‘[T]he means’, said Mahan, ‘are less than the end, and must be subjected to it.’ He, like Corbett, Richmond and the rest of them had obviously read their Clausewitz.²

They all accepted that, to quote John Stuart Mill, ‘our diplomacy stands for nothing when we have not a fleet to back it’.³ As far as Corbett was concerned, the first function of the fleet was ‘to support or obstruct diplomatic effort’. Mahan argued, too, that the possession of seapower increased a country’s prestige, security and influence: it was necessary for Great Powers to be strong at sea. With some reservations, he quoted Nelson: ‘I hate your pen-and-ink men; a fleet of British ships of war are the best negotiators in Europe.’⁴ The reverse was equally true. Being weak at sea put you in political and strategic danger both at home and abroad.

None the less, the bulk of their attention was directed at the wartime, high-intensity uses of navies. Mahan hardly mentions the contemporary day-to-day activities of the US Navy’s ‘forward squadrons’ or the manifold lessons of its ‘Banana Wars’. Corbett likewise pays scant regard to the political functions of the Royal Navy and its involvement in countless small wars and operational deployments through the nineteenth century. Apart from recommending that navies should prepare efficiently and visibly for war, in the expectation that this would shape the perceptions of other countries, the classic maritime strategists in fact had little advice to offer about naval activities in peacetime.

The gap they left has however now largely been filled by their modern-day successors. The greater costs and risks of applying force in the nuclear age concentrated naval minds

on the issue of what could be, and should be, the role of navies in situations (well) short of outright and major war. Here the pioneer was the US Navy's Admiral Stansfield Turner, who encouraged thought about what he called the 'Naval Presence mission...the use of naval forces, short of war, to achieve political objectives'. Turner discussed 'preventive deployments' (where the appearance of naval forces prevents a problem from becoming a crisis) and 'reactive deployments' (where naval forces respond to a crisis). Deployments, threatened or actual, need to be appropriate to the situation, pose a credible threat to the opposition and must suggest the capacity to engage in any of five basic actions: amphibious assault, air attack, bombardment, blockade, or exposure through reconnaissance.⁵ When Turner took over the US Naval War College at Newport, he put such ideas into practice by completely revamping its educational syllabus so that his students studied the demands of presence alongside those of warfighting.

Likewise, Admiral Gorshkov had a good deal to say on the matter, and was of course in an excellent position to put his ideas into global effect. Especially from the late 1960s, Soviet fleets and squadrons appeared on all the world's oceans, considerably complicating Western assumptions and reminding everyone that the Soviet Union was now a global player to be reckoned with. Gorshkov was clear that navies could

demonstrate graphically the real fighting power of one's state. Demonstrative actions by the navy in many cases have made it possible to achieve political ends without resorting to armed struggle, merely by putting on pressure with one's own potential might and threatening to start military operations. Thus, the navy has always been an instrument of the policy of states, an important aid to diplomacy in peacetime.⁶

This interest has been taken still further by naval professionals in the post Cold War era. 'Naval Force in Support of Diplomacy' features significantly in British maritime doctrine, much encouraged by the governmental emphasis given to the whole concept of defence diplomacy. In the United States, *Forward...From the Sea* likewise claimed:

Naval forces are an indispensable and exceptional instrument of American foreign policy. From conducting routine port visits to nations and regions that are of special interest, to sustaining larger demonstrations of support to long-standing regional security interests...our naval forces advance US diplomatic initiatives overseas.⁷

While the cynic may reasonably dismiss all this as the sort of thing you might expect admirals to say, their conclusions have largely been backed up by a substantial body of academic opinion. Throughout the Cold War period and beyond, academics have added a level of helpful detail on how naval diplomacy works and on the political purposes it can serve. Their work has been in many ways an outgrowth of the burgeoning literature on the diplomacy of force associated with such writers as Thomas Schelling, Oran Young and Alexander George.⁸

Laurence Martin's *The Sea in Modern Strategy* dealt extensively with less-than-absolute types of maritime conflict, and *Gunboat Diplomacy* produced by James Cable has become a minor classic. Edward Luttwak's *The Political Uses of Sea Power* and Ken

Booth's very thorough *Navies and Foreign Policy* took these ideas further. Surveys of this kind are inevitably quite general and so were complemented by more specialised works focusing on particular crises and navies.⁹

These academic analysts produced their own varying taxonomies of the purposes and methods of naval diplomacy. James Cable distinguished between four kinds of naval force: the definitive (where it is used to produce a *fait accompli*, as in the case of the seizure of the spy ship USS *Pueblo* by the North Koreans); the purposeful (to persuade other nations to change their policy—the object of the British naval deployment to Kuwait in 1961); the catalytic (such as the sending of the *Enterprise* to the Bay of Bengal in 1971 merely to influence events); the expressive (just to emphasise attitudes, with no other object necessarily in view). Edward Luttwak, on the other hand, discussed what he called 'naval suasion' which was either 'latent' (routine and undirected deployments) or 'active' (by conscious design). Such actions could support allies, deter adversaries or compel them to change their policy. Like Luttwak, Ken Booth argued that the tools and tactics of naval diplomacy included the manipulation of the size, composition, locality, readiness and activity of deployed naval forces, naval aid (help in training and arms supply), operational calls and specific goodwill visits.

Naval diplomacy is clearly a serious activity in its own right. It is not simply something that navies do when they have not got a decent war to fight. It matters, internationally. For all these reasons, it needs to be understood.

9.2 THE DIPLOMATIC VALUE OF NAVAL POWER

Navies are of diplomatic value for two reasons. First, they are military services, perform at least some of the strategic functions that armies and air forces do and so, like them, have instrumental value as a part of the diplomat's toolkit. There is a vast literature on the role of military force in international politics, both in peace and in war, and much of it applies to navies.

In some strategic circumstances, however, the leverage of naval power could seem quite slight, even irrelevant, when compared with land or airpower. When contemplating with satisfaction the strategic outcome of the British bombardment of Acre in 1840 Lord Palmerston considered it

an event of immense political importance as regards the interests of England, not only in connection with the Turkish Question, but in relation to every other question which we may have to discuss with other powers. Every country that has towns within cannon shot of deep water will remember the operations of the British Fleet...whenever such country has any differences with us.¹⁰

But the point was that many countries and interests were not in fact within cannon-shot of the British fleet. Thus when the British wished to dissuade Bismarck from unsettling the European status quo by taking on Denmark in 1864, they found their naval power to be practically useless in political terms. This kind of example led Paul Kennedy to argue that naval power was of declining utility, compared with other forms of military power.¹¹

Of course, sometimes, the strategic consequences of victory or defeat in battle at sea can be considerable. When in 1798 Nelson took what would now be called a task force (since it was a detached squadron rather than a full-scale fleet) into the Mediterranean to deal with its French equivalent at Toulon, the First Lord of the time described it as 'a condition on which the fate of Europe may at the moment be stated to depend'. The result was the Battle of the Nile when 'amid the shoals of Aboukir Bay, the result of a contest between two modestly-sized sailing squadrons changed the balance of world power, literally overnight'. And many other examples of this claimed degree of consequence can be found. As we saw in Chapter 1, the strategic 'leverage' of seapower in war has been and continues to be very considerable. Both James Cable and Colin Gray conclude that, elegant though Kennedy's argument seemed in 1976, it was, in the last analysis, substantially wrong.¹²

While they both followed the example of the traditional strategists in focusing on the effect of navies *in wartime*, their analysis of the Cold War and, in Cable's case from his study of the 'violent peace' that accompanied and succeeded it, led them to conclude that naval power was an important aspect of peacetime diplomacy too.

Far from becoming more common, the peacetime situations in which navies have nothing to contribute politically are actually becoming rarer. This is partly a consequence of the growth of strategic interest in the littoral and the increasing value of the ocean (as discussed in Chapters 8 and 10 respectively) and partly through a growing acceptance of the need in today's globalised world to manage crises, and to prevent, limit or resolve conflict.

But, second, the growing diplomatic utility of navies is also a consequence of the fundamental characteristics of naval forces themselves.

China's Vice-Admiral Chen Mingshen made the obvious point like this:

[T]he navy...whether [in] peace or war...is also a means of pursuing national foreign policy. Navies possess many specific characteristics that differ from those of the [other] armed forces. The navy has international capabilities of free navigation on the high seas, and in peacetime it can cruise the world's seas, even conducting limited operations, outside the territorial waters of hostile countries.¹³

Gorshkov also was fond of pointing to the particular advantages that navies have in the more benign, coalition-building aspects of naval diplomacy. It is not simply that sailors are a nicer set of people; the other services find it difficult to replicate parts of the spectrum of possibilities offered by warships, in which something that is potentially quite menacing can easily be made to seem warm and cuddly while alongside in a foreign harbour. It is certainly quite hard to conceive of an equivalent courtesy visit by a division of main battle tanks.

Nor are these advantages the exclusive property of the larger naval powers. Ken Booth argued that 'it is only the greatest navies which have important foreign policy implications'.¹⁴ The rest of this chapter will establish, however, that naval diplomacy is a role in which all navies can and do engage, whatever their size and whatever the political persuasion of their government.

Several points about the complicated relationship between naval power and politics should be made. First, maritime operations in peace and war can develop their own momentum, producing their own imperatives and unintended political consequences. The evolution of the German U-boat war between 1914 and 1918 and its disastrous impact on American opinion is a case in point. Navies sometimes *make* foreign policy rather than simply serve it.¹⁵

Second, the influence arrows between a navy and its environment go both ways; navies do have a political impact on their environment, but they are affected by it too. Navies themselves, their size and use, are often a consequence (rather than a cause) of political processes either on the domestic or the international scene. In all these ways, as Mahan observed: 'Diplomatic conditions affect military action, and military considerations diplomatic measures. They are inseparable parts of a whole; and as such those responsible for military measures should understand the diplomatic factors, and vice versa.'¹⁶

For all these reasons, naval diplomacy for the first time has become a significant preoccupation of maritime strategists, an important declared function of navies and justification for having them. No longer is it merely a kind of bonus, something one does with navies when there are no wars to fight.

9.3 THE RANGE AND EXTENT OF NAVAL DIPLOMACY

So, what does naval diplomacy involve? How can we break it down into manageable components? Naval presence facilitates but is not necessarily a condition for, picture-building, acts of coercion and coalition-building activities. Naval coercion can be further broken down into deterrence and compellence operations.

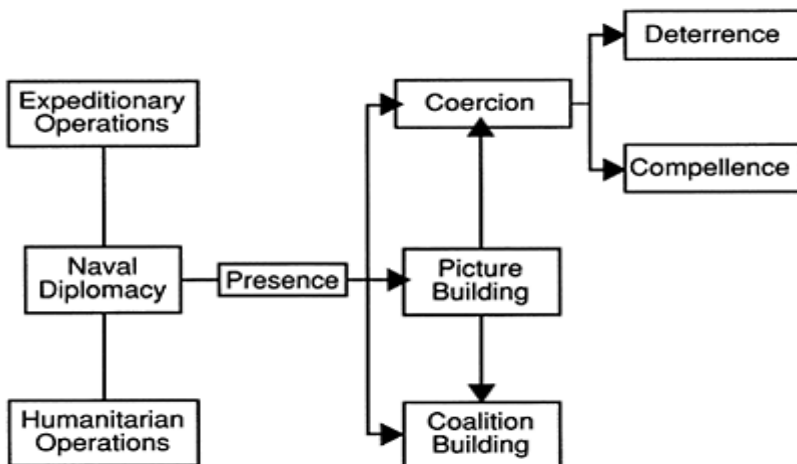


FIGURE 9.1 Naval Diplomacy: The Components

Several points need to be made about the various functions on the naval diplomacy spectrum:

- The distinctions between these functions are based on their purpose, not their format.
- Naval diplomacy is a spectrum, a continuum, in which the boundaries between the functions are inherently fuzzy. The activities they lead to may differ not in type, but merely in degree.
- Moreover, the same maritime force may find itself engaged in more than one sort of activity simultaneously. A naval force intercepting illicit coastal steamers full of arms may be deterring, compelling and coalition-building all at the same time.
- The relative importance and intensity of these three sorts of activity may constantly change day by day, and not necessarily in a straightforwardly linear way with each generally getting better or generally getting worse. The constant shifts and varying roles of external navies in the Gulf tanker war of the 1980s illustrates the point exactly and shows just how demanding the requirement for this level of operational flexibility can be.
- As though this were not enough, naval diplomacy merges at either end of the spectrum with related activities, most particularly with expeditionary operations at one end and humanitarian ones at the other.

As we saw in Section 8.3, the US Marine Corps sought to capture this complexity with their analogy of the ‘three-block war’, in which a force can find itself involved in a humanitarian relief operation on one city block, mediating between two fighting groups on another and enforcing peace against a hostile adversary on a third. Worse, the same marines may have to do all three in sequence or even simultaneously—a challenge because the demands of each in terms of deployment, demeanour and weaponry will probably be very different.

Clearly, naval diplomacy can be difficult and demanding for those who practise it, for those simply trying to understand the phenomenon—especially, perhaps, if they are the people ultimately paying for it. What follows, then, is an explanatory analysis intended to make the range of possibilities clearer and more discrete than they actually are.

9.4 NAVAL PRESENCE

‘And, most opportune to our need, I have
A vessel rides fast by, but not prepar’d
For this design...’
Shakespeare, *A Winter’s Tale*, IV/iii

Naval Presence: Definitions

If the immediate aim of naval presence is indeed to be present, to have a vessel ‘riding fast nearby’ and handy for whatever may turn up in areas of concern, it is clear that this function needs to be distinguished from simply having naval forces. In other words, we need to distinguish the ‘presence’ of naval forces from their ‘existence’.

This is important because the mere existence of naval forces may well have worthwhile politico-strategic consequences in its own right. Most recently Indonesia’s

President Megawati Sukarnoputri rehearsed this argument in Beijing, when she reminded her Chinese hosts (not that they really needed it) that 'A strong naval force reflects a nation's dignity, thus (by having one) we can gain the respect of other countries in the world.'¹⁷ This can be true of individual ships as well as navies as a whole. As one scholar recently observed:

Ships have long symbolised technical achievement, national pride, maritime power, and a host of other human accomplishments (witness the enduring appeal of the *Victory* on display in Portsmouth or the *Constitution* in Boston).¹⁸

Back in 1637, the English launched the significantly named 100-gun line-of-battleship the *Sovereign of the Seas* 'to the great Glory of the English Nation, and not to be paralleled in the whole of the Christian World'. The princely sum of £868 6s 8d was spent on decorating the ship, especially the stern. Phineas Pett, the shipbuilder, was appalled by this, confiding in his diary that 'she was so gorgeously ornamented with carving and gilding, that she seemed to have been designed rather for a vain display of magnificence than for the services of the state'. But, of course, poor Phineas was missing the point—the display of magnificence was serving the state, because then as now so much of international politics is about perception, of how strong and resolute you seem in the eyes of others. Moreover, behind all the carving and gilding, the *Sovereign of the Seas* (or the 'Golden Devil' as the Dutch called her) was easily the most powerful ship in the world.¹⁹

The construction of navies can have more specific purposes in mind than simply 'for general purposes of greatness'. Thus in the nineteenth century Napoleon III thought that the construction of a first-class fleet would help persuade the British to accept his scheme for re-organising Europe in accordance with French interests. Forty years later, Tirpitz's so-called 'Risk fleet' was his response to Germany's 'most dangerous enemy ...against whom we most urgently require a certain amount of naval force as a political power factor'.²⁰

Drawing attention to one's naval power was also the point behind Oman's Sayyid Said in first having built and then sailing an impressive modern warship, the *Sultanah*, first to New York in 1840, where she delivered Oman's ambassador with due pomp and circumstance, and then to London in 1842. Almost overnight, Oman became noticed by the world's Great Powers.²¹

Sayyid Said realised, however, that there was little point in having the ship unless it were drawn to the attention of the people whose opinions he sought to influence. It is only when you do something with your naval forces that you switch from the merely 'existential' dimension of seapower to something more focused and purposeful. And with this we move towards naval presence as currently understood.

This is how the Royal Navy currently describes the concept:

Maritime Presence is the capability available to H[er] M[ajesty's] G[overnment] to influence political and military events world wide through maritime deployments and routine operations. This includes the ability to project a balanced military force that can poise for extended

periods, prepared for a rapid response across the spectrum of military tasks.²²

Three things emerge immediately from this definition:

- Naval presence is seen as valuable for what it makes possible.
- Naval presence can be the first step to a very wide range of ways in which maritime force can be used in order to achieve foreign policy objectives.
- Because of this huge range of consequential possibilities, it is very difficult (and in fact not very helpful) to seek to define the characteristics of forces apparently engaged in 'naval presence' solely in terms of that purely enabling activity. Instead, platform/force characteristics have to be derived largely from the activities that naval presence may lead to. But the word 'solely' is important, for presence does have some specific requirements as we shall see later.

Naval Presence: Varying Forms

Naval presence, moreover, comes in many different forms. First, there is the aspect of time. Presence can be routine and continuous, particularly in important areas where a country wishes to demonstrate a permanent interest. It can, on the other hand, be periodic and in accordance with some regular deployment rhythm, once a year, once a month or 'whenever we can'. This will usually reflect a less acute sense of interest in an area, or a shortage of resources.

Finally, there is 'contingency positioning'—when a government orders a naval force to an area in a way that diverts ships from existing schedules but without quite knowing what it wants that force actually to do. James Cable was quite rude about some types of this stand-by presence: 'Warships are moved or deployed as a political gesture, as an alternative to effective action or an outlet for emotion', but often it will be precautionary 'just-in-case' insurance against the unforeseeable. The covert British despatch of SSNs to the Falklands in the crisis of 1977 is an excellent example of contingency positioning; in the event the crisis blew over without their presence needing to be revealed. But Cable is none the less right to warn against the unconsidered, automatic creation (or reinforcement) of presence forces, lest it gets nations involved in issues unnecessarily and more generally devalues the currency of naval presence.²³

Then there is the actual *composition* of the presence force. What kind of mix of capabilities does the force (or the single ship) possess and project? What is its state of readiness? Where exactly is it? Is the presence real or 'virtual' (say, in the form of the rumours that an SSN was on its way to the Falklands very early in the 1982 crisis)?

Naval Presence: Advantages

Not least because of its flexibility of form, naval presence offers diplomats a wide range of policy options which they may choose to exploit in order to defend national interests around the world. It facilitates picture-building, coercion and coalition-building. It offers a cost-effective means of exploiting advantages special to the sea and navies.

Its specific advantages are:

- *Independence.* of host nation support and the political limitations and complications that this often entails. The sea is a neutral medium, and the presence of naval forces in international waters is much less provocative to wary populations than the presence of ground or air forces might be. The United States, and some European forces have considerable strategic interests in the Gulf region, for example, but local sensitivities to ground-force deployments mean that military means of defending those interests often have to be largely sea-based.
- *Reach.* In the age of the ballistic and cruise missile, much improved NGS, modern sea-based aircraft and STOM, navies now have much extended strategic reach, although plainly not as much as air forces.
- *Flexibility.* There are many different types of warship, and many of them, being multipurpose, are individually very versatile. Because of this, a ship can be used to convey entirely different messages to adversaries or friends by the way it is used. Lights and canvas can transform the dourest man-of-war into a floating discotheque for visiting dignitaries in a matter of hours; a ship's geographical position is often used as a political signal and can easily be altered to suit the circumstances; the range of its weaponry provides a whole variety of diplomatic instruments. For all these reasons, it is hard to imagine a squadron of either aircraft or main battle tanks having the same diplomatic versatility as a modern warship.
- *Controllability.* Because warships can so easily be inserted into an area or gracefully withdrawn from it if events take an unpleasant turn, naval power limits the liability of those using it. In any case, there are fewer civilians at sea than on land, no cities and fewer state resources may be involved. A confrontation at sea is less sensitive, and less prone to accidental escalation, than one on land. The use of naval forces is therefore usually regarded as less provocative, less dangerous and more controllable than that of their equivalents in the other services in the thick of events ashore.
- *Strategic Mobility.* The slowness of ground formations, and the logistic difficulty of shifting them from one place to another is well known. Aircraft, on the other hand, tend to be less mobile than they appear because they will often depend on routes over other people's countries and bases in them—neither of which may be available when needed. Formations of warships, however, can, with supporting auxiliaries, loiter in likely areas for weeks and sometimes months at a time, being on hand and on call. Naval forces are moreover surprisingly fast. Steaming at 25 knots, they can travel up to 600 miles a day and often arrive in theatre first, immediately ready for action, provided the individual units have the necessary range, endurance and reliability. These advantages in strategic mobility over the alternatives offered by the other services, mean that naval forces are often the best way of giving a country global reach.

But an obvious question arises. Is naval presence with all its advantages, an actual prerequisite for the coercive and coalition-building operations it may lead to? Obviously, the quick answer to this question is 'no'. It is possible to imagine an expeditionary war of intervention, for example, that boils up from nowhere, and for which no preparations have been made by way of preliminary naval deployments to prevent the crisis from happening and to gain initial military, political and environmental intelligence.

But this is manifestly undesirable in that the response is purely reactive, abandons all prospects of using maritime force to manage or shape the strategic environment and tends to militate against the speed and effectiveness of the operation.

It follows from this that maintaining a naval presence in an area increases national readiness, contributes to the capacity to signal strategic interest, offers a means by which the strategic environment may be shaped to national advantage and facilitates the activities that may follow.

Naval Presence: Tailoring and Sustaining the Package

Governments have to think very carefully about how they craft their naval presence packages. The starting point will presumably be an attempt to identify the importance of national interests in particular regions and some kind of assessment of the likelihood that those interests might be jeopardised. The next stage in the process will be some consideration of the extent to which naval forces are relevant to identified threats and risks. If so, what naval capabilities would be required to respond effectively to those risks and threats? Do those capabilities need to be deployed permanently, periodically or only on a contingent basis?

Western navies and for that matter, the Soviet Navy too, seemed to have followed this procedure when considering the worsening situation in the Gulf in the 1980s when Iraq and Iran were at war. It was thought important to keep the oil flowing. From a derived military objective to protect shipping could be determined a list of consequential military tasks like dealing with mines, defending against attack by aircraft and small attack craft, maintaining air superiority, and so on, because these capabilities would simultaneously deter the unrighteous, reassure friends and by-standers and offer a means of limiting the damage if deterrence failed. From these necessary tasks a naval force package could be got together that was consistent with available resources, the likely actions of other navies, and the perceived imminence of the threats and risks.

Finally, a host of technical factors need to be entered into the equation—and these are ones that *are* derived purely from presence and not from the activities it might lead to:

- How many ships are needed to support one on a particular station?
- What are reliable transit speeds?
- What assumptions are to be made about maintenance schedules, and the rotation of personnel?

From this, it is easy to see how the requirements for presence may determine the size and structure of the fleet.²⁴

While it would be nice to think that decision-makers followed such a tidy and logical estimate process in their deliberations on the matter, this kind of scientific exactitude has its limits. International politics is a chancy, unpredictable business. The sums may go wrong. For this reason, there is a natural tendency to err on the side of safety, even to over-insure. The US Navy, for example, has long been noted for its emphasis on *combat-credible* forward presence. Thus *Forward ... From the Sea*:

Forces deployed forward for routine exercises and activities are also the forces most likely to be called upon to respond to an emerging crisis. The

potential for escalation dictates that presence forces must be shaped for missions they *may* encounter. This provides theater commanders with credible crisis-response capabilities in the event *normal* conditions or outcomes do not turn out as we expect.²⁵

Forces that cannot act decisively, even to the extent of looking after themselves, cannot be said to be 'poised'; instead, they are a kind of helpless jetsam like HMS *Amethyst*, the British frigate caught up the Yangtse by the Chinese Communists in 1949.²⁶ Naval presence packages that are weaker than the situation requires are little more than a hostage to fortune, and may become a liability for foreign policy makers rather than a way of helping them to resolve problems.

For their part, naval professionals have often pointed to the tension between the demands of naval presence operations and warfighting. Admiral Jacky Fisher eliminated the Royal Navy's detached squadrons before the First World War so that he could re-deploy their men into a battlefleet that would deal with the new German Navy across the North Sea:

Showing the flag...was the cry of the baying hounds in 1905 when we brought home some 160 vessels of war that could neither fight nor run away—and whose Officers were shooting pheasants up Chinese rivers and giving tea parties to British consuls. How those Consuls did write! And how agitated was the Foreign Office!²⁷

The Royal Navy of the 1920s continued to regard 'showing the flag' activities as a distraction from their main task of preparing for war, although they warmed to it in the 1930s. There were similar concerns in the US Navy too.²⁸

The main worry was and is the kind of 'skill fade' that may so easily set in when ships are unaccompanied on distant stations for long periods of time. The commander of the British Invincible carrier group pointed out that when they were strategically 'poised' in the Eastern Mediterranean in 1990 there were no aircraft to practise against and this 'did give rise to the potential for erosion of the operational capability of my Joint Air Group'.²⁹ Historians point out that warfighting experimentation and innovations tend to come from concentrated forces at home (such as the US Atlantic and Pacific Fleets of the interwar years which, for example, greatly advanced the cause of naval aviation rather than dispersed squadrons operating forward).³⁰

The US Navy has for the last 50 years or so solved this dilemma by concentrating its forces into two powerful forward deployed fleets, and has been wary of either of the two alternative devices of:

- Keeping one fleet back at home and 'surging' units forward to reinforce weak forward squadrons when the occasion demands. While that may facilitate experimentation and is less demanding in personnel terms, the forward squadrons may not be strong enough to deter or reassure.
- Devoting all the fleet to widely dispersed forward squadrons.

But there are problems with this approach, understandable though it might be. The presence of large naval forces offshore, while perfectly legal, might seem inappropriate to

the locals, especially if those forces are used or presented in an insensitive way. In this, the demands of coercion and coalition-building might well conflict. We will return to this issue later.

Then there is the issue of how these dilemmas affect all the world's other navies. It may seem at first glance that forward naval presence of this sort is the province only of a superpower fleet, but that is not the case. Indeed, when the US fleet was perhaps tenth to twelfth in the world's naval pecking order during the late eighteenth and early nineteenth centuries, it still managed to deploy a surprising number of small detached squadrons around the world, specifically six between 1815 and 1840 in the East Indies, the Pacific, West Indies, Brazil, the Mediterranean and Africa.

In fact, lesser naval powers have simply to adjust their approach to naval presence to suit their circumstances. This may require them to limit the regions they frequent, the time spent on station and the capability of their presence packages; it also means that they must of course expect less of the advantage offered by superpower-style naval presence. But, even so, the advantages may still be considerable.

9.5 NAVAL PICTURE-BUILDING

As we saw in Sections 8.5 and 8.7, collecting, processing and disseminating data about the actions and policies of allies and potential adversaries is essential in order to anticipate emerging risks and threats and to be in a better situation to do something about them if that seems necessary. This activity is the province of foreign offices, ambassadors and the intelligence services.

It is hard to exaggerate the importance of this activity. The failure of British deterrence and compellence in the 1982 Falklands crisis was largely due to the mistaken assumptions that both sides made about each others' intentions and capacities. Britain underestimated Argentina's military intentions; Argentina likewise underestimated Britain's resolve before the landings on South Georgia, and then subsequently overestimated it. The result was a war that no one wanted. This failure may be compared with success in handling tricky parts of the sanctions campaign against Iraq. At one point, the Iraqis provocatively sailed the 'Baby Milk Peace Ship', the *Ibn Khaldoon*, through the Coalition blockade hoping to spark a confrontation with media-worthy pictures of tough US Marines attacking the many angry women on board. Forewarned by an excellent global surveillance system, the Allies knew all about this, handled the matter sensitively and still managed to locate the contraband hidden under the baby-milk.³¹ Knowledge is, indeed, power.

Although these shadowy activities do not generally attract much publicity, naval forces have an important role to play in picture-building. It is conducted by naval attaches and liaison officers, satellites and naval intelligence and policy staffs—but here the focus is on its sea-based forms, and these will be both part of, and a contribution to, the coercive and coalition-building operations to be described shortly. These are aimed at accumulating data on the geographic characteristics of littoral areas of interest, on monitoring the political situation and on assessing the strengths and weaknesses of other military forces in such regions. To a surprising extent, it is a one-way process in which navies gain much more information than they give away. Naval forces over the horizon

are very hard to detect, even in the age of satellites, and for the foreseeable future will remain so. With increasing access to UAVs, naval picture-building is likely to become even more effective, as we saw in Section 8.7.³²

Successful picture-building means that those 'playing away' have some of the advantages of those 'playing at home'. It facilitates subsequent actions of coercion and coalition-building, and is therefore seen by the US and other navies as a persuasive rationale for forward presence and fleet deployments 'out-of-area'.

The advantages of naval picture-building are indirectly suggested by the strong exception that many countries take to such activities in their areas of concern, and to the dangerous situations that often seem to develop from their attempts to eliminate or reduce them. During the Cold War, underwater confrontations between the intelligence-collecting submarines of both sides were quite common, and indeed the recent concern about the activities of Russian merchant ships in the vicinity of US naval bases suggests that this phenomenon has not entirely disappeared. The loss of the USS *Liberty* to an Israeli air attack in 1967 and the USS *Pueblo* incident of 1968 in which North Korean forces captured a US spy-ship just outside their territorial waters should show both the importance and the hazards of this activity. The USS *Pueblo* was ill prepared for her mission, and unsupported by friendly naval/air forces. The US Navy seems to have made the unwise assumption that she would be safe since she was operating in international waters. The whole lamentable incident shows how seriously this picture-building role needs to be taken.³³

The sinking of a North Korean spy-ship disguised as a trawler after action by Japanese maritime forces in December 2001 demonstrates that the task of naval picture-building is as important as ever it was and suggests that navies engaging in this kind of activity should be prepared for trouble: there are strong practical as well as political incentives for conducting the task in as unobtrusive and non-provocative way as possible.³⁴

9.6 NAVAL COERCION

'To subdue the enemy without fighting, that is the acme of skill.'

Sun Tzu³⁵

The whole business of using coercive force to influence the behaviour of other people and to get them to do what you want them to do by means (well) short of full-scale war has produced an enormous literature, no doubt because the costs and uncertainties of war are now so potentially horrendous. Accordingly, diplomats prefer to get their way by much less risky and costly means and, these days, take Sun Tzu's adage with great seriousness.

Naval coercion has always had an important role in this. It has a very long historical track record, and, as Malcolm Murfett has justly remarked:

Despite the vast changes that have taken place in the world since the mid-Victorian era, the coercive role that a navy—whether great or small—can perform in peacetime against a littoral state has survived virtually intact.³⁶

All naval activity is, or should be, in support of political policy, but coercion operations are particularly politicised. British maritime doctrine describes coercion as the

[t]hreat or use of limited action...to deter a possible aggressor or to compel him to comply with a diplomatic *démarche* or resolution.³⁷

Coercion, or as it is sometimes called ‘coercive inducement’, thus comprises two closely related dimensions: deterrence and compellence. Acts of deterrence are aimed at preventing someone from doing something by creating an expectation that the likely costs of the act would exceed the likely benefits. Deterrence is a matter of intentions and perceptions, tends to be passive rather than active, general rather than specific, and in itself will not have lethal consequences even for the deterred party. Compellence, on the other hand, may (or may not) have lethal consequences; it is specific, active, and is intended to *oblige* an adversary to do something, or maybe to stop doing something.

A single act may have both compellent and deterrent purposes. Thus the US Navy’s ‘Operation El Dorado Canyon’ of 1986 was intended to force Libya’s Colonel Gaddafi to stop supporting international terrorism, and to deter him from re-starting his support at some later date. That controversial operation does, moreover, raise a number of interesting issues about naval coercion:

- The fact that more or less the same 6th Fleet forces were used for this operation as were used for earlier deterrent ‘freedom of navigation’ exercises in the Gulf of Sidra in 1981 and in the first three months of 1986 illustrates the flexibility of seapower.
- But, in Washington’s view, those earlier acts of deterrence failed to have the desired effect on the Libyan leader, and may even have inspired further support for international terrorism, specifically the bombing of the La Belle discothèque in Berlin. From this perspective, the 1986 raid in fact can be seen as just one round in a gradually escalating conflict over which neither side had full control.
- The limited alternative of a sea-based coercive campaign of economic sanctions being ruled out by the prospect of only half-hearted European support, the US felt they had to resort to force. They did try to reduce the risk of casualties, even amongst the Libyan military. Some might regard this gradualism as likely to prove operationally ineffective. John Lehman, for example, bemoaned the personnel losses and military ineffectiveness of a campaign framed by the ‘academic game theory approach of “sending messages” with “surgical strikes” and “measured responses”.’³⁸
- The conduct of the air strike was marred by equipment malfunctions and some of the bombs missed their targets, damaging foreign embassies in the Bin Ghasir area of Tripoli. A total of 37 Libyans were killed and a further 93 injured, including members of the Libyan leader’s family. Nor was the raid cost-free for the Americans; they lost one F111 and both its crew, and attracted political criticism from various by-standers. But the raid did result in serious damage to facilities valued by the Libyan regime.

- Subsequent events show how hard it is to measure the success of naval coercion. According to some estimates, the Lockerbie bombing of 1988 was an indirect consequence, together with the downing of a French airliner in Chad. Others, however, point to a declining level of Libyan support for international terrorism after this attack. Sooner or later analysts move into the murky waters of counterfactual speculation: what would Libya have done if the attacks had not taken place? On the basis of this experience it may be unwise to expect clear-cut answers to the quite fundamental issue of whether this was indeed 'clear and effective retribution' and, more generally, whether such acts should be regarded as worth the risks and dangers.
- The issue of the extent to which the Libyan regime was engaged in the support of international terrorism and was therefore an appropriate target for attacks in support of defeating it, shows the centrality of accurate picture-building in the success of naval coercion.
- The perceived requirement to extend the action to land targets illustrates the political limitations of acts of naval coercion which are restricted to the sea.³⁹

This case study shows that for all the literature, coercion remains an imprecise art which it is depressingly easy to get wrong. Its definitions, purposes and mechanics remain vague, and often the coercive effectiveness of an action only becomes clear afterwards—and often not even then. Naval practitioners and their political masters anxious for a doctrinal handbook on naval coercion that will give them the kind of detailed advice on what to do which is in any way equivalent to the guidance they can derive from tactical/technical rule books on mine-clearance, for example, will have quite some time to wait. None the less, the questions remain as far as force developers and foreign-policy-makers are concerned: what does naval coercion require of naval forces? What sort of naval forces are most suited to such activities and how should they best be used? A look at both components of naval coercion in a little more detail may help.

Naval Compellence Operations

'Most mighty sovereign, on the western coast
Rideth a puissant navy.'

Shakespeare, *Richard III*, IV/4

These are maritime operations intended to compel an adversary to do something he does not want to do, through the coercive use of sea-based forces. Such operations come in a wide variety of forms. Typically, they will avoid the sustained engagement of ground forces, and will be limited in extent and duration. Because they require the adversary to do something measurable, there is some hope of assessing their effectiveness.

Recent naval operations against Iraq, such as Desert Fox in 1998, and others of the sort, which were intended to compel the Baghdad regime to accept UN arms control inspectors through sea- and land-based air strikes, come into this category. Before the advent of airpower, such coercion was chiefly conducted by offshore bombardment—and the British attack on Acre of 1840 which has already been looked at is a good example of

this. James Cable describes such operations as the use of 'definitive force'—the short, sharp exercises of naval power intended immediately to resolve an unsatisfactory situation. But while Acre was a clear-cut victory, the results of naval compellence on Iraq in the 1990s were more ambiguous.

The demarcation between naval compellence operations and the conduct of a small war may admittedly be a muddy one. The Falklands campaign of 1982 and naval support for the Kosovo operation of 1999 could be regarded as small, expeditionary wars rather than as distinct acts of compellence. But the original Argentine invasion of the Falklands—Operation Rosario—can be regarded as a definitive act of naval compellence which went seriously wrong. If the consequent despatch of the British Task Force was indeed intended to be an act of non-lethal compellence by which the Argentinians would feel obliged to vacate the islands before the British arrived, then that also failed.⁴⁰

Often, there seem to be more lessons in failure than in success so it might be worth looking at these two aspects of the Falklands campaign in a little more detail. Why as a definitive act of naval compellence, did Operation Rosario fail to end the matter? No doubt because the British found the outcome unacceptable and, crucially, felt they had the diplomatic and military wherewithal to have a reasonable prospect of doing something that would make the outcome more acceptable. Since that proved in the end to be the case, the operation was obviously a serious military and political misjudgement by the Argentinians of the strategic capacity of their opponent. Argentina's compellent strategy was ruined by what was essentially, a monumental failure in picture-building, although as we shall see in the next section this was partly explained by the woolliness of earlier British acts of deterrence.

Britain's subsequent despatch of the Task Force raises more complicated issues, but also failed in that the Argentinians were not persuaded to leave the islands peacefully or to come to some diplomatic resolution acceptable to the British. There seem to be two reasons for this. First, the Argentinians continued to overestimate their own military strength relative to the British, putting excessive faith in the air bridge to the Falklands, in the bombing capacity of their air forces and in the strategic effectiveness of their small Exocet armoury. Much of this is perhaps understandable given the inexperience of an armed force that had not seen significant action for over a century. Moreover, others shared their view, including some military professionals in the United States.

Second, if the primary aim of the Task Force at the beginning was to persuade the Argentinians to leave peacefully (and that is still open to debate), the Argentinians may well have misinterpreted British motivation, and instead concluded from this and the general ratcheting up of the seriousness of the British response (through their apparent disinclination to explore ways of handing over sovereignty diplomatically, through the largely symbolic seizure of South Georgia and the declaration and implementation of the various 'exclusion zones') that, in effect, hostilities had already begun and that it was now too late in political terms for them to withdraw with honour. If this was indeed the case and if the British did think of the despatch of the Task Force primarily in terms of non-lethal compellence, then it had precisely the reverse effect to that intended, kicked off a general action it was intended to avoid and graphically illustrates the dangers and deficiencies of using naval force in this way.

From this perspective, naval compellence as the use or promised use of violence in direct pursuit of specific political objectives is plainly an imprecise art. The opponent may misinterpret the motivation behind the act, and may not react as intended.

Alternatively, the despatch of the Task Force can be seen, and was indeed seen by many, quite simply as a large-scale act of 'contingent positioning' which soon turned into preparation for a straightforward and ultimately highly successful act of lethal compellence on a scale approximating a small war.

The efforts of Coalition navies against Serbia over Kosovo in 1999 and Afghanistan's Taliban regime in 2001–02 can be seen in exactly the same light. On a smaller scale, the US Navy's Operation Praying Mantis against Iranian mine-laying in the Gulf in April 1988 effectively knocked the Iranian Navy out of the campaign and, even though it was restricted to the maritime environment, arguably played a significant part in persuading the Iranian government to seek an overall accommodation with Iraq. The 'lessons' of these 'successful' examples of naval compellence must surely include:

- Having naval forces with a range of capabilities sufficient for the task. The greater the safety margin, the better. The sooner the adversary is made aware of this margin the better.
- Basing compellent action on an accurate picture of the adversary's character, level of attachment to the objective and his capability, intentions and capacity to react in the desired manner.
- Using naval force with rules of engagement militarily appropriate to the desired effect.
- Ensuring that military actions do not make it impossible to keep necessary allies on board.

But all this tends to be much clearer in retrospect than it is at the time. Things that can go wrong frequently will, especially in such crowded and complicated waters as the Gulf. Even the world's most capable navy can make horrendous mistakes. Famously, in the course of Praying Mantis the USS *Merrill* was on the point of firing a Harpoon missile at an Iranian frigate when the target turned out to be a Soviet Sovremenny-class guided-missile destroyer whose Captain, evidently wanting 'pictures for history', got so close as nearly to be part of it. That was a disaster averted, but the tragic shooting down by the USS *Vincennes* of Airflight 655, an Iranian airbus full of pilgrims bound for Mecca, serves as a terrible example of the potential hazards involved in naval compellence, for all concerned.⁴¹

Military professionals also often express their concern about the possible tension between 'graduated response' and 'rapid effect' *both* of which foreign-policy-makers seem to want as guiding principles in the conduct of compellence operations. Those with a preference for decisive and overwhelming force are wary of the pin-prick attacks characteristic of a graduated response. They may be politically advantageous in reducing casualties and winning political support around the world, but they may harden the resolve of the opponent and prove counter-productive in the long run. Deducing how much force is necessary for effective compellence is clearly very difficult.

Maritime interception operations (MIOPS)

These difficulties explain the natural preference for non-lethal forms of compellence, particularly for international sanctions campaigns through MIOPS, intended to oblige one or more states to change their policy by attacking parts of their (war) economy. Associated tasks include the stopping, searching, seizing and diverting of suspect ships and aircraft. Again, MIOPS has a long track record. Previous examples include sanctions against Italy in the 1930s, the British Beira and Armilla patrols and recent operations against Iraq and Serbia. In all, there have been over one hundred sanctions campaigns since 1945. Their advantage is that being non-lethal (at least in direct terms) they tend to attract more support than lethal forms of compellence.⁴²

But they are not an easy option. They often require sophisticated multinational co-ordination of air and sea forces across a wide area. Either the forces engaged need compatible rules of engagement, or the operation has to be conducted such that ROE differences do not matter. Where the target of the sanctions campaign chooses to resist they can be very difficult to implement in practical terms. This is especially so in cases where the seas concerned are narrow (the Gulf and the Adriatic), where the adversaries resist boarding and where the targets are potentially explosive and in many cases poorly maintained and operated oil tankers. The Iraqi practice of fortifying the bridges of their ships with metal barriers and dodging in and out of territorial waters is particularly difficult to deal with without hazarding life and limb. The British solution of the direct insertion of inspection teams by helicopter proved to be the secret of success in dealing with steadily increasing but still passive resistance on the part of the Iraqi ships, without having to resort to disabling fire.

But the real problem is less than total compliance with the implementation of the blockade even by those who in principle support it, either because they cannot control the entrepreneurial instincts of their citizens, or because they dislike some of the detail, or because they are tempted by the economic incentives of cheating.

For this reason, however well the MIOPS are conducted, sanctions campaigns usually fail—at least in the sense of forcing the adversary to change policy. One recent estimate puts their success rate at about 20 per cent.⁴³ They may succeed in other ways, none the less. The Beira patrol, for instance, may have been worth the effort in that it showed black Africa that Britain's resistance to Rhodesia's bid for unilateral independence on terms the rest of the continent found unacceptable, was in fact serious. The sanctions campaign during Desert Shield may have failed to persuade Iraq to vacate Kuwait but it did demonstrate that all means short of lethal force had been tried, and so developed the necessary domestic and international support for the much more coercive Desert Storm. Unsurprisingly, therefore, MIOPS are a particularly politicised aspect of naval compellence and the record during Desert Shield shows them to have been minutely controlled by the political authorities involved. Moreover, the manner in which the participating forces informally came together, without adhering to a common command structure, in order to make the operation successful, was in itself a usefully political activity. From this perspective, sanctions campaigns of this sort are less acts of compellence than of coalition-building.

The same might be said for the cunning sanctions campaign launched by the Iraqis themselves in the 1980s. This took the form of a sustained campaign against Iran's oil industry, by means of a series of land-based air attacks on tankers in the Gulf. But while this might have been the ostensible purpose of the attacks, and so should be seen simply as an operation of war, most analysts are agreed that the Iraqis' real intent was to change the strategic balance between them and the Iranians by sucking the United States and others into the conflict. The Iranians made this much easier by extending their retaliation not just to Iraqi oil tankers but to vessels from Arab countries that they suspected were tacitly supporting Baghdad. This had precisely the effect that Saddam Hussein would have wished.

It brought the United States and others into the conflict and directed most of their effort against Iran, and so played a role in forcing Iran to accept terms in the subsequent peace less generous than they might otherwise have hoped for. Iraq's conduct of the tanker war was both an act of naval compellence and a coalition-building exercise. From both points of view, it was successful and deserves study as an example of how very limited and inefficiently conducted acts of force (which in the case of their attack on the USS *Stark* went badly wrong) could have beneficial strategic consequences out of all proportion to the effort.

Naval Deterrence

Some definitions Since the advent of nuclear weapons, much thought has been devoted to the concept of deterrence because actually using force seemed to have become suddenly so much more costly. The focus of this thinking was on *nuclear* deterrence. A capacity to influence other peoples' behaviour by the implicit or explicit threat of nuclear weapons at sea is obviously the most extreme variant of naval deterrence. This is an ongoing concern for a handful of advanced navies and indeed has recently generated arcane discussions about its 'pre-' and 'sub-strategic' configurations.

Of much wider interest, however, is the notion of deterrence by conventional means and applying it to the maritime environment. Here the aim is to use naval forces to persuade an adversary *not* to do something through showing that the likely costs may well outweigh the hoped-for benefits. It is based on the potential rather than the actual use of force. It is essentially preventative, and so, if successful, will probably be a more cost-effective way of using force than attempting to remedy a bad situation after it has already developed.⁴⁴

Broadly, naval deterrence comes in two forms. The first is general, passive and implicit. The mere existence in an area of a capable naval force loitering with intent in international waters near an area of concern may be all that is required. This may often represent an unarticulated threat to possible malefactors of the consequences of wrongdoing. To quote the US Secretary of State in 1801:

Such a squadron cruising [*sic*] in view of the Barbary Powers will have a tendency to prevent them from seizing on our commerce, whenever passion of a desire for plunder might intice [*sic*] them thereto...⁴⁵

Later in the nineteenth century, the Royal Navy adopted a deterrent posture consciously aimed at putting at risk an adversary's coastal forts, dockyards and ports. Indeed, the threat to St Petersburg of the Anglo-French 'Great Armament', a powerful fleet dedicated to large-scale shore bombardment, played an important role in concluding the Crimean War of 1853–56, although no such policy was ever announced.⁴⁶

The second type of naval deterrence on the other hand is specific, active and explicit. A possible situation has arisen in which an adversary might be tempted to do something that the deterring party does not want. There is an identifiable adversary and a course of action that it is to be deterred. Naval forces may be ostentatiously surged into the area to bring the prospective adversary to realise the error of his ways. Here the naval advantage of most value for purposes of deterrence is their speed and strategic mobility.

Both types of deterrence have their effect through either the promise of denial (the forces present will prevent his gaining his objective) or the promise of punishment (the adversary may gain his objectives, but the political/military costs will be prohibitive). This latter explains how small navies can sometimes deter large ones.

Finally, deterrence may extend into war. Thus the presence of the Royal Navy's 'Western Squadron' deterred the French from exploiting the periodic absence of the bulk of the British fleet in order to support Jacobite rebellion in eighteenth-century Britain.⁴⁷ Thus, according to *The Maritime Strategy*, Western hunter-killer submarines threatening Soviet SSBNs would not only deter Soviet aggression in peace but would prevent their attacking NATO reinforcement shipping in the Atlantic in the event of war.

It is often difficult to tell if deterrence has worked, and if so, how.

Some examples The deterrent effectiveness of *The Maritime Strategy* was backed up by candid and articulated statements and by demonstration deployments. It was explicit and highly active. Western submarines were always present in northern waters but covert; the presence of large-scale surface forces was intermittent but highly publicised. In peacetime the aim was general (to deter the Soviet Union from aggression); in war it would have been quite specific, as a means of defending NATO's Atlantic shipping. It was at the same time a strategy of deterrence and of coalition-building, in that it was clearly intended to reassure the United States' forward allies with the promise of effective support. At the time, this policy had many critics—some of whom were deeply sceptical of its likely effectiveness. Since the end of the Cold War, however, its impact on Soviet behaviour and its contribution to the ending of that conflict has become much clearer.⁴⁸

Operation Vanguard was a British combined-arms reinforcement of Kuwait in 1961 when it seemed as though Iraq was about to attack the country eleven days after it came into existence. It was specific and explicit and, again, very active. When the crisis passed, British maritime forces remained in the area for a while in passive and general mode. After the famous withdrawal from East of Suez was rescinded, the British maintained a small naval presence in the area, the Armilla Patrol, the function of which was to signal continuing interest and to deter actions against British interests, but in a low-key, generalised and passive way. The French did much the same. The United States maintained a fleet in the area, even after the conclusion of the Iran-Iraq war. None of these forces deterred the Iraqi assault on Kuwait but neither were they intended to.

In Desert Shield, 1990, there was some concern that Iraq might be tempted to move on from its apparent success in Kuwait to attack Saudi Arabia. The speedy arrival of US naval forces reassured local allies of US support and made it possible for them to receive

elements of the US Marine Corps, the 82nd Airborne Division and in due course US land-based air forces. The level of Arab resistance to any further Iraqi advance, backed up by US forces in Saudi Arabia with the prospect of sea-based US air and possibly amphibious attack on the flank and rear of Iraqi forces entering Saudi, should certainly have deterred Saddam Hussein, had he any such intention. This was another attempt at specific, active and explicit deterrence, built on surged deployments. While it may (or may not, depending on whether Iraq actually intended invading Saudi Arabia) have succeeded, as an act of compellence (to oblige Iraq to leave Kuwait) it clearly failed.

The US Seventh Fleet is forward-based (not merely forward-deployed) and is intended to act in the general deterrence of anything that might threaten local stability and US interests in the area. Most of the time its deterrent function is general, passive and largely implicit. Only when a situation arises (such as the apparent Chinese threat to Taiwan in 1996 when two carrier battle groups ostentatiously moved into the area) does the deterrence become explicit. The Seventh Fleet is expected to be able to deal with most crises without surged reinforcement from elsewhere, although in this instance the arrival of a second carrier battle group from the Indian Ocean probably concentrated minds.⁴⁹ Generally, the western Pacific has avoided major crises, but the extent to which the Seventh Fleet can take the credit for this remains problematic. Certainly, the prospect of substantial US naval reductions caused many anxieties in the area, even, if in muted fashion, from the Chinese.

An example of failure If it is sometimes hard to see when an act or a policy of deterrence has succeeded, it is much easier to tell when it has not. One of the most spectacular examples of this was the British failure to deter the Argentinian invasion of the Falklands in 1982. This failure indeed was so comprehensive as to invite the suspicion that the British had no deterrent policy at all—a factor which must go some way to explaining and perhaps even justifying the Argentinian conclusion that the British would in the end accept their take-over of the islands as a *fait accompli* (or a definitive act of maritime compellence).

What might usefully be learned from this episode? First, since the dispute between Britain and Argentina over the Falklands has a long history, there was a requirement for sustained deterrence and the nature of the dispute meant that deterrence would need to be maritime. The problem with sustained deterrence, however, is that its success appears always to reduce the need for the force levels that produced it. Accordingly, there is always the temptation to reduce the deterrent force to dangerously low levels. Some recent US naval analysts conclude that the Thatcher government's announced deactivation of nearly a quarter of the Royal Navy's surface combatants, its offer of the carrier HMS *Invincible* to Australia and, specifically, the decision to withdraw HMS *Endurance* from the area combined to undermine the effectiveness of the deterrent:

the British government's reduction in spending for force projection and sustainment in the months prior to the Argentine invasion played its part in the failure of deterrence that brought about the conflict in the first place...⁵⁰

Interestingly, this reduction in Britain's capacity to defend the Falklands had not in fact yet taken place by April 1982 when the Argentinians invaded. Indeed, HMS *Endurance*

was still on station sending back despairing warnings to London. The real point was that the Argentinian government concluded that Britain lacked not just the means but more importantly the *will* to defend the islands. Again, it is not difficult to see why the Argentinians may have come to this conclusion, for the British had been famously obscure on the matter for years. Worse, in the previous crisis they had given the impression that they would not respond to quite remarkable provocation.

In February 1976 the Argentinian destroyer ARA *Storni* opened fire on a British survey ship HMS *Shackleton*, 78 miles from Port Stanley. In response the British despatched a secret task force towards the area—a nuclear powered hunter-killer submarine with some supporting surface ships, HMS *Alacrity* and *Phoebe*, which were decently kept 1,000 miles away from the scene. But this was an act of ‘contingent positioning’ which the British did not tell the Argentinians about. This approach

spoke well for British restraint...but argued poorly as a demonstration of British will to the Argentines...Since Argentina was not informed of the submarine’s presence in the area, it was neither militarily deterred nor made aware of the potential cost of an invasion. [Thus T]he attack on a British vessel and the other hostile measures [that is the seizure and retention of S. Sandwich island] were not met with any known British response other than a return to the negotiation table.⁵¹

Perhaps the main reason for the British failure was an exaggerated view of what naval deterrence in this situation would require. Their Foreign Secretary took the maximalist line that deterrence required ‘demonstrably making an attack unlikely to achieve even initial success’. Maintaining this level of deterrence was naturally considered too onerous and expensive. Argentina was actually extremely anxious to avoid the spilling of blood (lest it antagonise world opinion) and a much lower and more affordable level of deterrence would probably have done the trick.⁵² Against this lamentable background, it was not surprising that British deterrence failed and that events transpired as they did.

The requirements of naval deterrence Difficult though it is to summarise the requirements of naval deterrence in very varied situations, some broad generalisations, drawn from the experience considered earlier, seem possible.

The first principle of successful naval deterrence has to be the criticality of political will and clarity and consistency of aim. Since deterrence is a psychological phenomenon, this often seems to be more important than the actual characteristics of the naval force involved. Clearly, an accurate ‘picture’ is absolutely essential, but even so one might be up against an adversary who seems either irrational, and so not deterrable, or who is convinced that asymmetric strategies will see him through despite the military odds. And sometimes such an adversary might be right.

The second principle must be to have naval forces with the necessary strategic mobility, flexibility and capacity to poise. Naval forces that could have significant impact on land through air/missile attack or through amphibious assault of some sort seem particularly effective as deterrents. Naval power can sometimes seem out of sight, and so out of mind. The evident capacity to bring that power to the attention of the land-bound adversary therefore helps.

More generally, big powerful ships do seem to deter better. One example may illustrate this. In the Spanish Civil War, the British sought to prevent interference with British shipping, but their destroyers were not having the desired effect on the Nationalists' 8-inch cruiser *Canarias*, until the battlecruiser HMS *Hood*, with its 15-inch guns, turned up on the scene and transformed perceptions.⁵³ Radicals urging the distribution of fighting power around more smaller, cheaper ships will come up against this problem in perception for some time yet. Only when it can be shown that the actual fighting power of such a 'transformed' fleet has delivered on its promises will the large surface ship lose its deterrent glitter.⁵⁴

The issue of the deterrent power of the modern submarine is related to this. The Argentinian Navy appears to have been driven back into its ports by the successful attack of ARA *Belgrano* by the nuclear hunter-killer submarine, HMS *Conqueror*. This shows that the hidden menace of a modern submarine may in some circumstances be a very effective 'virtual' deterrent, especially now that submarines may be armed with land-attack missiles. But they still seem more appropriate to the more coercive end of the deterrent spectrum, even though they can these days participate in fleet reviews, and it is just about possible to hold cocktail parties aboard them.⁵⁵

The suitability of particular naval forces for deterrence operations is not, however, just a question of their offensive power to deter though punishment. They must also have the defensive power that allows deterrence through denial. The US Navy's 1987 Operation Earnest Will was an example of the way in which deficiencies in this area can undermine deterrent effectiveness. This operation was an attempt to convoy Kuwaiti-bound tankers into the Gulf as means of deterring Iranian attacks. Security leaks from the US Congress about the convoy's departure time, route coordinates and speed of advance helped the Iranians lay a minefield in the convoy's path. The US Navy's well-known weaknesses in mine clearance led to the unedifying spectacle of the convoy's escorts huddling behind the VLCC *Bridgeton* for protection as it went through the minefield. The resultant mine-damage to *Bridgeton* (which would probably have been fatal for the escorts) and an escalating conflict with the Iranians was the inevitable result of this classic failure of deterrence. The situation has been summarised by Nadia El-Shazly like this:

Four months of preparations, followed by three drill exercises, starting in early July [1987] ended in chaos and embarrassment. The 600 ship navy—the world's most formidable naval power, which amassed a staggering array of potent firepower and with the most sophisticated equipment in the region -was humiliated by an ancient pre-World War One [1908] mine. This was an example, *par excellence*, of cost-effectiveness on the part of the Iranians.⁵⁶

What this example mainly illustrates is the importance of defensive fighting power on the part of would-be naval deterrent forces. But it also shows that naval deterrence does not necessarily require an armada, provided the deterring party is willing to accept a degree of risk and loss in the pursuit of his aims.

By exploiting such political realities, a weaker party may deter not through denial but through the prospect of inflicting punishment of a political sort. In the so-called 'Cod Wars' between Britain and Iceland, for example, the Icelanders emerged as the winners

despite the fact that in every engagement British ships could have blasted their adversaries out of the water with total operational impunity. But in the circumstances prevailing, such action would have been wildly inappropriate. What mattered in this jostling-match was, first, the physical strength of the hulls banging into each other in the north Atlantic (and here the tough little Icelandic boats had all the advantages) and, second, the international spectacle of a powerful country seemingly intent on bullying a weak one. By forcing the more powerful to take on the international opprobrium associated with the use of force against the weak, a grossly inferior naval power can sometimes make use of political possibilities to even the odds against much more powerful forces. An effective naval force of some sort is, however, a prerequisite for this kind of existential deterrence.

9.7 COALITION-BUILDING

Coalition-building is a range of activity expressly intended to secure foreign policy objectives not by threatening potential adversaries but by influencing the behaviour of allies and potentially friendly by-standers. This is just as much a matter of strategy as defined in Section 2.2 as the more traditional business of coercing adversaries.

In many cases, countries may advance their interests more through influencing the behaviour of their friends, especially if those friends are powerful, than through more menacing activity aimed at adversaries.

An Australian minister recently summarised this aspect of maritime strategy like this:

As the most mobile of Australia's services, the RAN is well placed to enact a policy of regional engagement. It exercises with most other Asia-Pacific navies and it encourages regional navies to develop capabilities for national defence. In effect, it builds relationships which, in turn, contribute to regional stability and security...⁵⁷

Navies are particularly involved in this kind of thing not just because of their mobility but for a variety of other reasons as well. One of the most obvious is that the sea is a truly international medium which unites, as much as it divides, separated countries and regions. The sheer scale of naval activity around the world means that there are countless navy-to-navy interactions on a daily basis that can be devoted to this purpose. The scale of the US Navy's effort may be exceptional but the range is not. In 1997, for instance, it made 1,629 port visits to 99 nations bringing,

...enormous benefits through military-military contacts and good-will established with local communities. These ships hosted hundreds of thousands of visitors onboard. In return, more than 20,000 sailors and marines went in nearby communities to participate in numerous public service projects such as refurbishing schools and orphanages and providing basic medical care.⁵⁸

There is, finally, a kind of spiritual bond between sailors that perhaps derives from the fact that the medium on which they operate—the sea—is dangerous and poses them all the same risks. Over the centuries this has resulted in a well-established and relatively universal tradition of rules of the road, behaviour, custom and courtesy. It is a unique operational environment with a developed body of long-established and universal precedent. Whether in chance passing encounters, in informally gathering to watch someone else's exercises, or in conscious coming together in response to some humanitarian crisis, there is a spontaneous *camaraderie* of the sea which can easily be turned to political purpose.⁵⁹

Perhaps because these activities are so routine, they may not be given the attention they deserve either by sailors or by scholars. The complete academic neglect of the extensive activities of the US Navy around the waters of Latin America for the past 50 years perfectly illustrates this.⁶⁰ There may be another reason, too, and that is that warfighting sailors sometimes find this kind of activity an irksome intrusion into their normal professional routines, which they would rather not encourage. It is certainly true that involving other navies, largely for the political sake of it, in one's exercises, and still more in one's equipment procurement projects complicates operations, as we saw in Section 8.3.

Aims and Types of Naval Coalition-Building

Coalitional activities range across a spectrum of intensity. Navy-navy personal contacts in professional gatherings such as the Western Pacific Naval Symposium (WPNS) or the Organisation for Indian Ocean Marine Affairs Cooperation (IOMARC) are usually the first step in improving relations, followed by simple port visits. These can be tiring yet politically very important. Following on from this, there are exercises with varying degrees of operational aspiration ranging from casual, opportunistic, passing bilateral exercises (PASSEX) to highly organised multinational exercises such as the annual RIMPAC (Rim of the Pacific) exercises in the Pacific. At the most demanding end of the scale, there are endeavours at institutional integration. These have gone furthest in the NATO area where national units are devoted for long periods of time to standing multilateral naval forces, and come under the direct operational command and control of the officers of other navies. Here the national identity of the unit should become subsumed by its international mission, and the coalition, theoretically, is all.

The motivation behind such coalitional activity is hugely varied but some of the more common are:

Sending messages

This can be particularly important in circumstances where those relationships have become strained for some reason. In November 1999 the British Type-23 frigate HMS *Somerset* joined with an Argentinian MEKO corvette, a support vessel, an Orion P3 maritime patrol aircraft and a Hercules aircraft in an exercise near Cape Horn. This imaginative bridge-building initiative was centred on the very common interest of co-ordinating search and rescue (SAR) skills.

Ship visits can be a useful form of diplomatic exchange, help maintain or secure good relations and win popular favour, provided the sailors ashore spend their money constructively and do not get too drunk too often. The complex signalling that went on between the Chinese and the Americans in the immediate aftermath of the collision between their aircraft off Hainan in April 2001 shows how non-lethal messages of approval and disapproval can be communicated by subtle requests and responses over which ships were allowed to visit which ports. In the immediate aftermath of the crisis, contacts and pre-arranged ship visits were first of all cancelled or greatly curtailed, then partially revived when, for example, China allowed two small US MCM vessels to visit Hong Kong but refused permission to a larger one, or when Secretary Rumsfeld cut off navy-to-navy personal contacts except for participation in a multilateral symposium on relief operations. The visit of the battle group led by the USS *Constellation* to Hong Kong in August 2001 showed that relations were getting back to normal.⁶¹

Reducing the risks of inadvertent conflict

The continual proximity of foreign warships, submarines and planes in the same waterspace can often seem potentially dangerous, leading to accidents and unfortunate incidents. In a more general way, naval arms programmes can lead to unintended tensions. Maritime arms control and confidence-building are important aspects of naval diplomacy and coalition-building. It is a well-studied phenomenon which need not be deeply analysed here, save from making the point that it *is* a form of strategy in the sense defined in Section 2.2, and that while it is now of little concern between the erstwhile opponents of the Cold War, it is alive and well in the Indian Ocean and the Pacific. Here, despite local cultural inhibitions about discussing such matters in public, sailors are beginning to explain their preparations to others in the hope of showing that they are not intended to be threatening. Both regions are seeing the extension of the 'Incidents at Sea' (INCSEA) network to more pairings of countries.⁶²

Naval reassurance

In less happy times ship visits and exercises may be intended to reassure threatened countries of support from others. The visit of the US battleship *Missouri* to Turkey in 1946 was a seminal event of this sort, followed by countless visits of reassurance by the United States to countries that were forward and thereby felt exposed to Soviet pressure, including Norway, Denmark, Turkey, Greece, Japan and South Korea. Nor is this kind of thing in any way new. Thus one British Foreign Office official of 1919 wrote: I have been credibly informed...that the arrival of HMS battlecruiser *New Zealand* in the middle of December to convey the Queen of Norway and Crown Prince Olaf to England created a profound impression in Bergen, especially amongst the working classes and the socialists. This visit...brought home to every Norwegian the fact that Great Britain continued to take the warmest interest in Norway. I venture to state the considered opinion that the dispatch of this fine cruiser to fetch Her Majesty was entirely justifiable and advisable not only from the dynastic point of view, but more especially from that of British interests.⁶³

Improving future co-ordination efficiency

Mahan pointed out the particular problems of allied fleets in dealing with unitary ones,⁶⁴ but sailors increasingly accept that for resource reasons and in order to share risk, their activities are increasingly likely to be multilateral. For this reason, it behoves them to find out how others do things. Improving interoperability is therefore a major incentive for many bilateral and multilateral exercises. It is certainly the guiding principle behind, for example, the US Navy's Cooperation Afloat Readiness and Training (CARAT) bilateral exercises with Brunei, Indonesia, Malaysia, Singapore and Thailand.

NATO provides the most sophisticated examples of maritime coalition operations with standing forces such as those in the Atlantic and Mediterranean and with specialist minewarfare and amphibious groupings. These are regarded as 'an essential element of NATO's maritime defence diplomacy effort, highlighting force unity and developing friendships between ships and bonds between nations'.⁶⁵ This level of integrated collaboration is exemplified in mixed command structure and doctrine and innumerable exercises, and has been buttressed and refined in operational experience especially in the Adriatic.

Even more ambitiously, individual ships or formations may be attached to foreign formations for long periods of time. In 1999, the British Type-23 frigate HMS *Somerset* became part of the French Navy's *Foch* carrier group; two years later Canada's HMCS *Vancouver* joined a US carrier battlegroup *en route* to the Gulf. Both ships were treated as a normal part of the force.⁶⁶

Increasingly, NATO procedures are being adopted in the rest of the world with the Extac (Exercise Tactics) series, now available on the internet. Cross-training at staff colleges and so forth obviously increases mutual understanding and the capacity to work together, and to build coalitions between NATO members and others.

Even so, difficulties will remain. Some are technological: many observers worry about differing levels of equipment creating real problems of coordination in a 'netted' environment. Others argue that it is often possible to find compensating ways 'to plug and play'. Instead, the real problem lies in what the French call the 'interoperability of the mind', whereby cultural/political differences make for different approaches in

- readiness to accept command from officers of foreign navies;
- propensity to call home, whatever the command arrangements, when something unexpected comes up on the plot and commanders fear they might need to deal with something that their political masters find sensitive;
- willingness to delegate command authority downwards.

For technological and political reasons the requirement to improve interoperability is likely to remain constant:

We must, collectively, continue to believe that there are always new ways to operate and exercise together; that there are always new forms of dialogue, and that there are always new tools and solutions that the largest and the smallest navies bring to the table.⁶⁷

That the Americans and the Europeans continue to find such close levels of integrated collaboration challenging suggests that NATO-style arrangements cannot simply be

imported into other areas and applied. In the Gulf, Indian Ocean and Pacific areas nations are on their own in a security sense, to a degree that the Europeans have almost forgotten about. In this, as in other areas, naval diplomacy has to conform to political realities as well as influence them.

Common acts against common threats

Kicking off Exercise Malphi-Laut 4/2001, Admiral Ruben Domingo of the Philippines Navy remarked 'We need to maintain and enhance our existing defense cooperation specially in the face of existing threats from terrorists, pirates and other lawless elements in our common border', so it was necessary for the Malay and Philippine Navies to become familiar with each other's equipment, organisational procedures and operational approach in order to respond more quickly and efficiently to emergencies, ship accidents and acts of cross-border crime.⁶⁸ As a bonus, such activity can hardly fail to improve general relationships between countries cooperating for these specific purposes.

In defence of arms sales

Not all navies can or chose to do this. The US Navy does not engage in it but many European navies do and have governmental organisations specifically designed to foster this activity. Warships, being relatively sophisticated systems, have always been regarded as a means of displaying technological prowess to others.

Requirements and Conclusions

Because coalition operations cover such a wide spectrum, it is hard to come to conclusions about their effectiveness, especially in the long term. They certainly seem to work best when they are part of an overall package of other diplomatic, military and economic measures. That hard-pressed treasuries and navies around the world have so extensively paid for and participated in such activities presumably suggests a widespread conclusion that they are worthwhile.

But it is equally difficult to make many generalisations about ships or approaches that may be good for coalitional operations. Big powerful ships offer commanders a wide range of capabilities and give them operational flexibility in planning and conducting exercises. Small ships, on the other hand, may be better suited for operations with small and modest navies. Manifestly, operational efficiency makes for effective coalition-building. Mistakes happen and can be politically costly. The inadvertent sinking of a Japanese fishing boat by a US submarine, or the shooting down of a US A6-E Intruder aircraft by a Japanese destroyer in a RIMPAC exercise, or the embarrassment caused by the suspected pipe fracture in the British submarine HMS *Tireless* in Gibraltar are all examples of the way in which naval activity can hinder diplomacy rather than help it.⁶⁹

One thing at least is clear, and that is that coalition-building is by no means restricted to large blue-water navies; indeed the problems that some of these have had with visits by nuclear-propelled or nuclear-armed vessels suggests that in this type of naval diplomacy at least, one can be too powerful.⁷⁰

9.8 NAVAL DIPLOMACY: IMPLICATIONS FOR STRATEGY-MAKERS

On the Need to Think

Naval diplomacy is thus a relatively new phrase covering maritime activity on a spectrum without discontinuities, which ranges from limited compellent military attack at one extreme, through deterrence to thoroughly amicable cooperation at the other. The aim is to influence the behaviour of other people. Although in naval diplomacy power is exploited rather than force expended, particular occasions may be thought to warrant physical, even lethal, action. Naval diplomacy can have as wide a range of purposes and effects as any other instrument of diplomacy. Naval diplomacy, like the alternatives, will sometimes succeed and sometimes fail.

It can be used in many ways to convey messages and influence events. The sending of a dominant force, likely to prevail, will whittle away the adversary's options, demonstrate commitment and may make the desired outcome more likely. A weak force, on the other hand, may be interposed between two competing parties to cool a situation. Forces can be left uncommitted or even sent in the opposite direction to indicate a determination not to get involved. The fact that the more dramatic and coercive manifestations of naval diplomacy command the attention should not conceal its many other roles.

These qualities are in increasing demand because the prevention of war and conflict remains the prime task of navies and the costs of failure could be horrendous. These have discouraged the tendency to resort to wars (or at least full-scale ones) as a means of settling international disputes. This does not of course mean that the disputes themselves have gone away, but merely that countries prefer other ways of sorting them out.

By providing a means by which diplomats can respond to the burgeoning challenges of the post Cold War world, navies seem to offer states a wide range of diplomatic instruments to use in normal peacetime, in times of strain and in times of crisis.

So, how (to revert to the Shakespearean quotation used at the start of Section 9.4) should navies 'prepare for this design' of diplomatic activity?

Naval Diplomacy: Some Initial Conclusions

The following tentative conclusions need to be borne in mind by those who wish to practise naval diplomacy.

Success is hard to prove

One of the main difficulties is in the business of measuring success, and, if some exercise in naval diplomacy has been deemed a success, what has made it so? This problem has been widely recognised. James Cable has talked about the need to 'produce reasonably reliable evidence that the naval force achieved the political objectives of the government employing it. The results must also last long enough to seem worth the cost of achieving them.'⁷¹ But how are these answers to be agreed? His is the classic method of objective historical enquiry long enough after the event for the dust to have settled. Another recent attempt at 'operationalising' success, in the Gulf region at least, has been to plot its

consequences for oil or stock market prices (on the assumption that stable prices are best for everyone). The assumption is that successful naval diplomacy will contribute to price stability. The big attraction of this approach is that it offers navalists the ultimate hope of actually proving to Treasury sceptics that naval diplomacy may be a paying proposition—with financial benefits outweighing the costs of the operation. But for the time being, this approach seems to raise more questions than it answers.⁷² More thought is still needed.

Naval diplomacy is only part of the package

Naval diplomacy is rarely decisive on its own. Naval force may, in many cases, be an indispensable part of the overall diplomatic package but often other parts of the package will prove more important in the long run. This was why Admiral Beatty, that great exponent of the Royal Navy, was so sceptical of the use of naval diplomacy against the Soviet Union in the 1920s:

We have now presented Soviet Russia with an ultimatum...We have now no men and no money. We have ships, but what can they do against a Power that is without Sea Forces. Blockade, yes, but that amounts to nothing. We can send ships, big ships, into the Baltic to obtain moral effect—but will that accomplish anything?⁷³

Too much should not be expected of navies in the diplomatic mode, however good at it they might be.

Naval diplomacy is no better than the policy it serves

The effectiveness of naval diplomacy can be undermined by deficiencies in political aim. According to John Lehman, for example, a confused political aim and inappropriate rules of engagement contributed much to the tribulations of the US Navy and Marine Corps off the Lebanon in the 1980s. The US Navy felt its defences against asymmetric attack were inadequate, especially in the aftermath of the bombing of the US Marines ashore, and its responses to threats ashore were counter-productively weak.⁷⁴ However efficient the naval force may be in operational terms, its efforts can be rendered ineffective by policy failures higher up.

There are naval costs to manage

Inherent contradictions between the requirements of naval diplomacy and warfighting often appear, however much policy-makers reluctant to make choices would wish them not to. Thus, in 1973, the US 6th Fleet was torn between the political attractions of dividing the fleet for a programme of port visits around the Mediterranean on the one hand, and keeping it concentrated for war readiness on the other.⁷⁵ Thus, coalition-building may require a warship to engage in a series of single-ship port visits which imply skill fade in those higher-intensity disciplines which are best rehearsed in company. Such tensions may need to be recognised and managed, by something of a shift

in emphasis away from a preoccupation with the requirements of general war towards a greater emphasis on the requirements of lower-order missions.

What Naval Diplomacy Needs

Naval diplomacy is invariably conducted by ships designed for something else. This is because the wide range of the activities it incorporates means that ships cannot be constructed for this function in the same way that they can for something specific like mine or anti-submarine warfare. Ships expressly designed for coalition-building (with provision made for large cocktail lounges for example) would not necessarily be suited for the rest of the range of tasks this mission comprises. The force planner should none the less be able to plot a matrix of task, fleet and platform requirements at least in general terms. The overall needs of the task should influence the size and structure of the fleet and its platform constituents.

In generic terms, the naval diplomacy task requires:

- *An accurate picture*
- *Offensive and defensive power.* Both sufficient for and appropriate to the task. These two qualities are more complex than they might seem. On the one hand, the force has to avoid having inappropriate strength: if shots may need to be fired either across bows or in salute, platforms armed only with missiles or torpedoes obviously will not do. On the other hand, the force must conjure up the right perceptions. Since the cruiser HMS *Mauritius* was airily dismissed by Persia's Hussain Makki in the 1951 Abadan crisis with the wounding comment that 'the British cannot frighten us with that matchbox',⁷⁶ it clearly failed in this respect. In some circumstances, sending in forces too weak for the job, or too weakly used, could make the situation even worse.
- *Force tailored to the circumstance.* Thus naval diplomacy in the waters of nineteenth-century China required not 'Line of Battle ships [which] are not adapted to the Chinese coasts', but light-draught gunboats which could carry, support, supply and withdraw troops, take on forts and impress with a generally imposing air, '32 pounders...[being]...more efficacious than other arguments'. They needed to be commanded by men who knew the political realities of their station, who could navigate skilfully and cope with severe winters, 'muddy and shallow waters, full of unseen dangers, violent tides, eddies and rippings'.⁷⁷
- *A speedy response.* Preventing problems is usually more effective than curing them, and speedy responses may help nip troubles in the bud. This is the principle behind the French *aviso* concept. Investing in an additional class of cheaper combatants might provide the greater number that facilitates a speedy response. Were it not for the increased maintenance and crew costs involved, keeping old first-line ships for longer periods would serve the same purpose.
- *Controllability.* Naval forces can slip out of the tight control needed to ensure they accomplish political aims either if they are too vulnerable (the attack on the USS *Stark*) or if, perhaps because of this, they are too aggressively defensive (the USS *Vincennes*'s shooting down of an Iranian airbus). Failures of either kind limit the controllability and therefore the diplomatic utility of naval forces.
- *A conformable media.* Because naval diplomacy is so much a matter of perception, the media are peculiarly important to its success. Unsympathetic or insensitive reporting

increases the prospects of failure. Because of the effect of the media, this is a world in which the weak can often bully the strong. To guard against this, media requirements (accommodation, briefings, access sometimes to communications, protection) may therefore need to be factored into the naval force equation. Managing the media is a crucial operational skill.

A few implications for the size and nature of the fleet emerge from this broad list of generic task requirements. The US Navy's Admiral Jay Johnson drew one clear conclusion:

One thing that the past few years has taught us is that we must pay greater attention to a wide range of 'peacetime' operations. To be effective in keeping the peace, deterring aggression, and maintaining stability, we must sustain the capability to act decisively across that entire spectrum—and not just in hi-tec...operations.⁷⁸

This means the fleet needs to provide a wide variety of force packages tailored for specific missions. If the mission is to exercise in coalition with small navies, small units may be more acceptable than large, over-capable ones. If there is an expectation of escalation, those same large, capable forces may, however, be exactly what is required. If the mission, on the other hand, is likely to turn humanitarian, ships with extensive room for stores, medical facilities, large-scale electricity generation or water production facilities may be at a premium. Moreover, the same activity may require very different forces when dealing with different adversaries and different areas. Maritime deterrence against the Chinese over Taiwan obviously requires different forces than the deterrence of the West Side Boys in Sierra Leone.

It may well be that for most navies, and in fact arguably all, this bewildering range of requirements is simply too much for single national naval budgets to cope with, especially up the coercive end of the scale, and dealing with serious adversaries. Here navies are increasingly likely to operate with others in multinational forces. These are a way of sharing risk and multiplying resources, but they bring with them extra demands in terms of interoperability, effective command and control facilities and so forth.

Lastly, what of the individual platform itself? Although naval diplomacy is not something for which ships can be specifically designed, balances will surely need to be struck between the following:

- *Versatility in the individual platform.* The greater the flexibility of the unit, the more contingencies it will be able to cope with.
- *Defence and offence.* All units and formations must be able to look after themselves, but in a way which does not undermine the mission. Vulnerability sometimes drives naval commanders to ask for permissive rules of engagement based on the notion of 'anticipatory self-defence' (i.e. attacking someone else is justified if he is believed to be on the point of attacking you). However understandable this may be, it reduces the controllability, and therefore the diplomatic value, of naval forces, especially in the kind of crisis when a delicacy of touch is most needed. Sinking all possible threats on sight in order to avoid the fate of the USS *Pueblo*, *Stark* or *Cole* often leads to diplomatic failure. On the other hand, the capacity to handle possible escalating threats

(such as the deterrence of possible interference by Indonesian submarines during the East Timor operation) is clearly necessary.

- *Cost and capability.* A similar balance needs to be struck over platform cost. To be effective against a wide range of possible threats, individual units need to be capable, and this means they will be expensive. But to be reliably present they also need to be affordable.
- *Single and group deployments.* Skill fade in those disciplines which are best rehearsed in company is a problem for ships on single deployments. While increasing the means of simulation on board may be a palliative, ships in company seem better able to prepare for the range of activities required of them under the naval diplomacy mission.
- *Prepared personnel.* Platforms and formations will require educated and prepared personnel who understand the mission, can robustly identify its military needs to the political authorities, can secure workable and appropriate ROEs and can then be trusted to operate effectively within their political constraints.

All of this seems to support the widespread conclusion reached by navies around the world that the naval diplomacy mission works best through navies endowed with as much general warfighting excellence as can be afforded. While there may need to be a shift of emphasis from the higher- to the lower-intensity missions where there are significant differences between the two, the capacity to operate effectively in the most hazardous situation usually increases prospects for success in the most probable. The simple fact that the reverse is not true should guard against the danger of going too far down the reductionist road.

None the less, this should not be an excuse for not taking the naval diplomacy mission seriously. Naval diplomacy does not come naturally. The range of activities contained within this function and their often very demanding nature makes it unwise to rely on improvisation. As with any other naval mission, naval diplomacy needs thinking about, and preparing for. Even so, there was much in Stansfield Turner's comment:

I think that we who exercise naval presence do not know enough about how to fit the action to the situation: how to be sure that the force we bring to bear, when told to help in some situation, is in fact the one most appropriate to the circumstances.⁷⁹

Twenty years later, it is still possible to encounter the complaint that, 'the profession as a whole does not value presence as an important military task, demanding the same expertise and careful study as strike warfare or anti-air warfare'.⁸⁰

In today's world, naval diplomacy has a crucial role to play because as a means of 'engagement' it can materially help shape the international environment, and contain, resolve or prevent conflict. But to make the most of this, navies and foreign ministries need to develop a strategic approach to naval diplomacy, designed to integrate it effectively with all other relevant aspects of a country's security policy. An engagement policy in a particular theatre might seek to establish a conscious ship-visit programme, for example, that would identify who should be visited (allies, wary by-standers or the frankly hostile?), why, to do what and with what. For their part, navies need to develop a rigorous way of thinking about naval diplomacy (perhaps even a doctrine?) and reflect the importance of the mission in their budgetary and force structure decisions.⁸¹

Chapter Ten

Good Order at Sea

10.1 INTRODUCTION: ORDER AND DISORDER

In Chapter 1 it was argued that the sea's past and continuing contribution to human development could be boiled down to the four main attributes, or ways in which it has been used, namely:

- for the resources it contained;
- for its utility as a means of transportation and trade;
- for its importance as a means of exchanging information;
- as a source of power and dominion.

These attributes are obviously interlinked and interdependent.

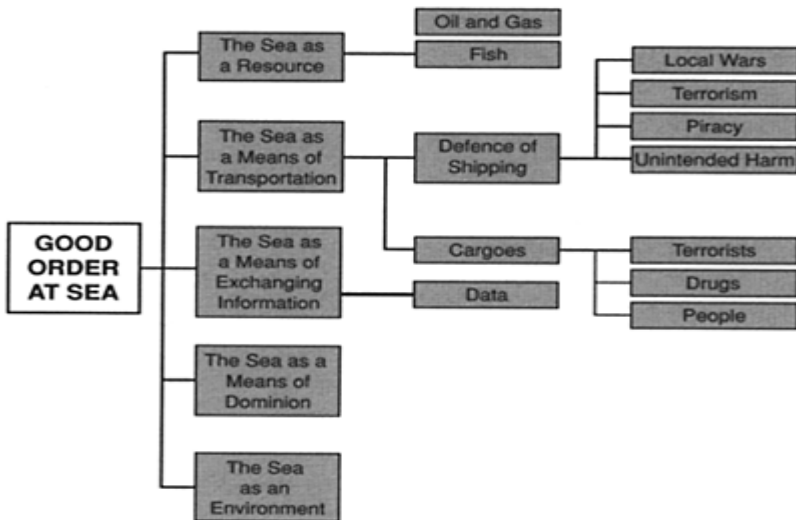


FIGURE 10.1 Good Order At Sea

The focus of most of this book has been on the last of the above four values, on the traditional way in which the sea has been used to foster, maintain or contest political power, in the interests of what is, these days, sometimes called ‘hard’ security.

This chapter, however, will try to restore the balance by looking more at the area of ‘soft’ security and focusing mainly, but not exclusively, on the other three historic values of the sea. It will argue that each is at least as important as ever it was, and that each faces a range of risks and threats to the good order on which their continued contribution to human development depends and which navies can help manage. It will add a new dimension too—the sea as an environment.

It will conclude with a general review of the likely consequences of all this for mankind’s attitude and policy towards the sea, and the impact this may have on navies themselves.

10.2 THE SEA AS A RESOURCE

For thousands of years, the sea has been a bounteous source of all manner of resources, living and non-living, and a major contributor to human development. Navies and other maritime forces have been increasingly involved in defence of this activity, and everything suggests that these responsibilities will expand in the future.

Oil and Gas

One-third of the world’s petroleum reserves are at sea, and these are likely to be of increasing commercial interest as land sources become depleted. Moreover, exploitation of these resources is steadily being conducted in deeper and deeper waters, currently reaching 10,000 feet in some cases. Oil and gas resources also need to be defended against all manner of intentional and unintentional harm. Here too the focus of concern is on such disputed areas as the Caspian and South China Seas where there have been small-scale clashes and confrontations at sea between the navies of the disputing parties.

With the growth of the offshore oil and gas industry, there has arisen an interest in its military utility and its defence. Mainly this is regarded as a matter of controlling the area in which the rigs and platforms are situated. The possibility of terrorist attack, however, has led some countries to develop special forces of one sort or another for the task of getting to trouble spots quickly and dealing with such threats. In both the Gulf Wars of the 1980s and 1991 there were naval clashes on and around oil rigs.

Fish and Other Living Marine Resources

‘Ha, come and bring away the nets ...’

‘Nay then, thou wilt starve sure: for here’s nothing to be got nowadays,
unless
thou canst fish for it.’

Shakespeare, *Pericles*, II/1

The world commercial fishing catch has more than quadrupled since 1950. The demand for edible fish produce is likely to rise from 80 million tons now to 115 million tons by 2015 as the population grows. But in 1990 the world's fish catch actually fell, and in 1994 a World Bank study warned that 'the current harvesting capacity of the world's fleet far exceeds the estimated biological sustainability of most commercial species'.¹ Already, most world fishing grounds are under severe pressure, and many local fishing communities around the world are further threatened by the advent of highly mechanised distant-water fishing fleets from elsewhere, which have moved into new fishing grounds, because they have exhausted their own. European Union fishing boats operating off the coast of Senegal, Mauretania and other parts of West Africa are a typical example. Here, as elsewhere, licences are often granted by struggling Third World governments desperate for immediate capital with inadequate means of supervising the activities they have allowed offshore. In effect they feel they have to mortgage their future for the sake of the present.²

The basic reason for the crisis in fish supply is not pollution, as is often said, but a simple matter of taking fish at a faster rate than can be naturally replaced. Partly, this is a matter of a refusal to lower fish-takes to sustainable levels, and partly of irresponsible methods (taking fish before they reach the age of reproduction, violating agreed limits by landing illegal 'black' fish, unwillingness to switch to alternative and less vulnerable species). Pollution of course aggravates the problem. In the Gulf of Thailand, climate change, the destruction of spawning grounds and habitats through coastal development, and land- and sea-based pollution have all increased the extreme vulnerability of local fishing stocks.

Even in areas (such as the European Union) where there are high degrees of political consensus, agreeing a way out of the crisis is extremely difficult, but when political enmity is added to the mixture, resolution of the fishing problem becomes highly problematic. Examples of this include the regular fishing clashes between India and Pakistan, the two Koreas, and the uneasy triangle of Japan, Russia and the two Koreas. In the civilised days of the so-called 'Cod Wars' between Britain and Iceland, rivalry was limited to some aggressive seamanship, and of British fishermen seeking to drive Icelandic vessels away by broadcasting spirited renditions of 'Rule Britannia' and throwing potatoes at them. Nowadays, all too often, such disputes are a matter of rocket-propelled grenades and heavy machine guns.

This is particularly evident in the Asia-Pacific where the imbalance between supply and demand is severe since one billion of its people depend on fish as the main source of their protein. In such circumstances, competition for dwindling resources may easily spill over into conflict. During the 1990s, lethal force was used and people killed in at least ten fishing disputes. Although there remain tricky differences of national opinion virtually everywhere, the really serious contentions are in the Gulf of Thailand, the South China Sea and the Sea of Okhotsk.

In theory, the solution to the problem is easy enough, being a matter of:

- Accepting that a crisis exists before it is too late to do anything about it. The total collapse of the fish population of the Grand Banks and its ominous failure to recover, despite a complete cessation of fishing, has made people realise how serious the general situation is.
- Agreeing sustainable fish-takes, sensible measures of conservation, and regulation, together with a general reduction in the future size of fishing fleets.

In practice, of course, this is extremely difficult politically and means that before such agreements can be reached, navies and/or coastguards have to protect both 'their' fish populations and their local fishermen.

In many situations, naval forces become involved in the supervision of national fishing grounds, protecting them against both irresponsible locals and intruding foreign poachers. Even this can be difficult and dangerous, frequently involving the risk of collision and potentially lethal force, especially in the waters around South-East Asia.³ Less dramatically, it can involve some very long chases indeed. Perhaps the record is the epic pursuit of the Togo-registered fishing boat *South Tomi*, detected illegally fishing for Patagonian toothfish in Australian waters and followed all the way across the Indian Ocean to South Africa where it was finally apprehended by the Royal Australian Naval personnel with the cooperation of the South Africans. It was indeed the 'one that didn't get away'.⁴ But, of course, few protecting navies or coastguards have the equipment, time, resources, professionalism and maybe inclination to do this kind of thing.

Less often, fishing quarrels lead to navies becoming involved in shooting matches against each other. The famed blue crab, together with disputed jurisdictions in the Yellow Sea, led to bloody clashes between the North and South Korean Navies in June of both 1999 and 2002 in which warships were sunk and sailors killed and wounded.⁵ On the one hand, clashes such as these and those that have occurred in the South China Sea enormously complicate the regulation of fishing and so threaten the long-term viability of the whole area. On the other hand, intense local competition for the fish exacerbates such political disputes and sometimes even seems to set their pace.

Although in most cases, the supervision of the fisheries is largely a constabulary matter for navies and coastguards, it may sometimes escalate to limited warfighting. Fishing interacts with other forms of sea use and demands of many navies a major effort in terms of the proportion of their ships and sailors needing to be deployed on the task.

Less obviously, the crisis in world fishing is tending to encourage the extension of jurisdiction even over the high seas, because fish so often straddle national jurisdictions. The so-called 'Turbot War' of 1995 between Spain and Canada on the Grand Banks off Newfoundland is an example. Even though this was beyond Canada's EEZ (exclusive economic zone), the Canadian Navy felt that marine conservation justified its seizing a Spanish trawler, the *Estai*, fishing there in defiance of local agreement that the area should be allowed to recover from former depredations. This was an interesting indication of the extent to which jurisdiction is slowly being extended to the high seas.⁶

10.3 THE SEA AS A MEANS OF TRANSPORTATION

The sea's value as a means of transportation is a particularly complicated and wide-ranging topic. Because all countries benefit to a greater or lesser extent from the free flow

of world trade, global security and prosperity remains absolutely dependent on maritime transportation. Indeed, sea-based trade is likely to expand considerably over the next 30 years, possibly tripling in fact.

Sea-based trade faces many risks, and these also threaten the international order of which it is so important a part. Naval forces, customs and coastguards seek, in peacetime, to control those threats to good order at sea that might put it at risk. In some cases what ships carry may pose a threat to good order. But before considering that, this chapter will look first at the safety of the ships themselves.

Some of the threats that ships face are intentional, some are not. Intentional threats may include cyber attacks on the electronic communication systems that increasingly lubricate the shipping system, and land-bound disruption of ports of despatch and receipt. Restrictive legislation (for environmental or jurisdictional reasons) on rights of passage through straits and narrow seas could also be represented as a worrying constraint on the freedom of navigation. Moreover, the prevalence today of a 'just-enough-just-in-time' operating philosophy makes the modern shipping system much more fragile and less resilient than once it was. Higher-value cargoes are now concentrated in fewer hulls. But so far, the main intended threats to international shipping have been its inadvertent involvement in other people's quarrels and the effects of modern-day piracy.

Deliberate Threats to Shipping

The effects of local wars

Neutral merchant shipping has always been at risk in war zones. In the so-called 'tanker war' of 1981–88, both Iraq and Iran chose to attack and harass international shipping as a means of influencing the policies of the Great Powers. Some 450 merchant ships belonging to 32 countries were attacked and 471 merchant seamen were killed. Iraq relied on air attacks and Iran on mines and shelling.⁷

Although the tanker war of the 1980s is the most obvious example of this type of intended threat, it is far from being the only one. Merchant ships in the vicinity of the Arab-Israeli, Indo-Pakistan and Vietnam Wars were vulnerable to attack. More recently the United States has made it clear that while it takes no stand on jurisdictional quarrels over the South China Sea, it will not tolerate any consequential disruption of the sea traffic passing through the area. It is possible to imagine smaller-scale contingencies of the sort elsewhere in the Asia-Pacific too, in the troubled waters around Indonesia or through some confrontation between hostile neighbours (the two Koreas, the People's Republic of China (PRC) and Taiwan). The protection of shipping in this kind of situation against this kind of intended harm is a familiar and apparently continuing requirement.

Moreover, shipping is now but a part of a complex intermodal goods-distribution system involving ports, railways and roads, in which the essential unit is increasingly the container being transported by a variety of means. It may well turn out to be much easier to disrupt this system by threatening the port or its approaches, or launching a cyber attack on the computerised logistics system that keeps the process going, rather than seeking to threaten the container ship on passage. Responses to this would seem mainly a matter of port security and modern shore-side policing.

Terrorist attack

Protecting shipping against terrorists, on the other hand, is a relatively new requirement, brought into high relief by the attack on the French tanker *Limburg* off Aden in October 2002.⁸ Ships passing through the Indonesian and Philippine archipelagos in recent years have likewise been harassed and attacked by terrorists from Aceh separatists and the Abu Sayef terrorist group respectively. ETA terrorists have sought to blow up ferries in Spanish ports and Indian shipping has been attacked by the naval wing of the TTE, the Tamil Tigers organisation.

Piracy

‘...and I must
Rid all the sea of pirates.’

Shakespeare, *Anthony and Cleopatra*, II/6

Modern-day piracy threatens the security of some of the world’s most important sea lines of communication, restricts the free and orderly passage of the maritime commerce that underpins the current world order, raises insurance rates, increases local tensions, and puts peoples’ lives at risk. It is especially prevalent in the busy waters off South-East Asia, where some of the world’s biggest ports and most important oil routes are to be found. In addition to the economic consequences of piracy the potential for environmental catastrophe is immense. In 1991, for instance, the tanker *Eastern Power* was boarded and taken over by pirates in the Philip Channel off Singapore. The crew were robbed, tied up and the pirates departed. For 20 minutes this 275,000-ton tanker, fully loaded with oil, steamed through these narrow and congested waters completely unmanned, until some of the crew managed to free themselves. There have been other instances of this sort of thing. Moreover, criminal attacks on shipping have grown both in number and in the level of violence employed.

Strictly, piracy only relates to such acts in waters outside the jurisdiction of any state. Attacks within territorial seas are more properly described as ‘sea robberies’—and in fact the great majority of such attacks take place in or near ports. This means that there are immense jurisdictional problems in dealing with them, because different countries have different regulations and approaches towards the problem. Effective responses become especially difficult when people in powerful states, sensitive about their jurisdictions, are suspected of involvement in the attacks themselves. In the 1990s, many believed this applied to some Chinese authorities, a matter which came to a head in April 1998 with the infamous *Petro-Ranger* affair when a large tanker was seized by pirates, but later turned up in a Chinese port with a new name, a new crew and no cargo. To the dismay of the Australians and the Malaysians, the Chinese refused to prosecute, and for a long time kept the ship. Moreover, the fact that shipping is now a completely globalised business much affected by small countries in no position to protect the ships flying their flags makes a co-ordinated response necessary, but very difficult.⁹

Naval responses to attacks on shipping

While piracy and maritime terrorism can often be attacked by normal onshore police work, naval responses to these threats to shipping are important.

Because so much of the world's oil came through the Gulf in the 1980s, President Reagan spoke for many when he concluded that 'Neither we nor the Western world as such would stand by and see the straits of the Persian gulf closed to international traffic.'¹⁰ The result was the biggest exercise in shipping protection since the end of the Second World War, involving at its height some 60 Western warships and 29 Soviet ones.

There were some obvious operational difficulties which were responsible for the mistakes alluded to in Section 9.6. The protecting powers were not belligerents and so were always *reacting* to events. The operational environment was difficult. The Gulf was narrow and confined, with ships surrounded by a host of land-based threats. The water was shallow, ideal for mining; sandstorms, humidity and hot temperatures were a continuing problem, and the waterways were thick with air and sea traffic in all directions. The protecting powers—the Americans, Russians and Europeans—were far from agreed on aims and methods. The most that could be achieved, even for the Europeans, was 'concertation'—namely, that protecting naval forces would be doing much the same thing in much the same area and with a degree of consultation. Finally, they were facing, especially from Iran, a variety of asymmetric threats:

The scourge of America's high-tech Navy is a weapon system stunning in its simplicity: high explosive mines so rudimentary they could be made in a garage, planted from teak-hulled boats of a design so ancient that Marco Polo marvelled they could sail at all. Meanwhile the Americans are geared for Star wars.¹¹

Many of the methods adopted were similar to those adopted in the conventional defence of shipping campaigns discussed in Chapter 7, qualified only by the essential fact that these navies were not at war. Through the ages, the fundamental principle has been that assured sea control is the best means of protecting shipping (or indeed of attacking it). But since the protecting navies were not belligerents, this took the form of maintaining a strong and effective naval force capable of defending the freedom of navigation in the area through general deterrence. Since only between 1 and 2 per cent of the shipping using the Gulf was actually attacked, this seems to have been reasonably successful.

But this general policy did sometimes require quite robust rules of engagement allowing, for example, the US Navy to attack the *Iran Ijr* in September 1987 for laying mines. American and other warships escorted tankers that were sometimes especially flagged for the purpose. The Royal Navy's Armilla patrol conducted by far the most extensive operation of this sort, 'accompanying' 1,026 British-owned ships through the Straits up to November 1988.¹² The French were prepared to extend their protection to any merchant ship in danger. All warships, of course, stood by to offer humanitarian assistance to any ship that was attacked, whatever its flag.

Different navies and coastguards also have different procedures for dealing with pirates. Naval vessels have a right and, some would argue, duty to arrest and punish pirates on the high seas—but many do not. By national law, a US warship is only entitled

to intercept pirated ships if they have cause to believe life is at risk; Australian warships can intercept and may feel able to do so in the territorial seas of other countries if, under the International Convention for the Safety of Life at Sea (SOLAS), they believe safety is at risk; they may not, however, arrest the pirates or protect property. The expectation that prosecution of pirates caught at sea becomes the responsibility of the warship that seized them is a major disincentive to decisive action, since this could ruin an exercise or visits programme. The fact that protocols vary so widely complicates international responses to piracy considerably.

Even so, there is a need for:

- Co-ordinated and enhanced picture-building. Often owners do not hear of a piratical attack until four or five days after the event. Singapore's introduction of a Vessel Traffic Information System demonstrates acceptance of the fact that shipping needs to be more closely monitored. One modern suggestion is that merchant ships be fitted with transponders continuously providing details of their position, course, cargo and general state and that they be treated like airliners, being handed from one 'sea traffic controller' to another.
- Jurisdictional accommodations and harmonised regulations and procedures obviously help.
- Combined action. In the 1990s, the Japanese repeatedly urged that the coastguards of South-Eastern Asian countries join with others to maintain patrols. The idea of Japanese warships of whatever sort operating in this area is but one example of the political sensitivity of such proposals.¹³ The Indonesian-Singaporean model of co-ordinated anti-piracy patrols in which warships keep in touch and hand over responsibility when the merchant ship crosses lines of jurisdiction is a more modest example of what can be achieved by such means.
- Naval capabilities. Chinese/Japanese coastguard cooperation in the East China Sea was much reinforced by the independent patrols of Russian navy warships in 1993. The deterrent effect of this system significantly reduced the incidence of piratical acts in the area. But such patrols require support from helicopter and maritime patrol aircraft, sustainability, and, if the warships are coming from elsewhere, sufficient *roulement* to provide the necessary numbers. The ships themselves need to be fast and sufficiently armed, guns generally being more useful than missiles. Armed soldiers or sailors skilled in rapid-roping and other boarding techniques will often also be needed. Warships on such duties also need appropriately robust rules of engagement.

Unintended Threats to Shipping: The Naval Response

The mundane need to protect shipping against accident and other forms of unintended disruption is important too. The world's seas and straits are ever busier, often with much larger and more valuable ships. In European waters, as elsewhere, there is a continuing trend towards increasing regulation of sea traffic for safety and environmental reasons, with the adoption of traffic separation schemes, more intrusive inspection regimes for seaworthiness, collision avoidance regulations, and so forth. While such arrangements have gone furthest in Europe, the tendency towards them is global.

But all this costs money and requires effort. For this reason, while countries have generally been eager to secure their rights under UNCLOS, they have sometimes been

less keen to assume the responsibilities that go with them. Progress has been slower than many would wish. The notion, in particular, that market forces can be relied on to produce the necessary improvements and thus make decisive political action less necessary bears some of the blame for this.

Protecting shipping against accidental harm is not a principal focus for warships, but they are likely to become increasingly involved in the process, especially if/when shipping regulations are applied to them. At the moment, warships

- regularly engage in search and rescue missions and contribute towards the co-ordination of international effort at the tactical, operational and strategic levels;
 - are the main means of dealing with the physical consequences of past wars—especially in the detection and elimination of sea-mines in the Mediterranean and the Gulf.
- Similarly, NATO navies came together to clear up the ordnance dropped in the Adriatic by aircraft returning from Bosnia. The exercise in which 16 Asia-Pacific navies came together in 2001 for large-scale mine clearance exercises off Singapore is another example.

One additional benefit of such arrangements is that not only do they contribute to safety at sea, but they also improve international relations, since they encourage cooperation against common threats and risks.¹⁴

Threatening Cargoes

What ships carry may itself threaten national, regional or global security, in a variety of ways. Governments view with hostility cargoes that threaten the values they represent. In 2001, the passage of the Dutch ‘abortion ship’ the *Aurora*, for example, was seen in just this way by governments in countries like Ireland, Malta and Spain, because what it offered was seen as a direct challenge to the fabric of their societies. US Coast Guard cutters operating against ‘rum-runners’ in the Prohibition era came into the same category. The interception of tankers illicitly carrying oil from Iraq can be seen as an indirect defence of international society as represented by the United Nations and its resolutions.

The passage of hazardous cargoes such as spent nuclear fuel is thought by many to be a threat to local safety, and has led to the arming (for the first time since the Second World War) of British merchant ships engaged in the business.¹⁵ Less dramatically, ‘ordinary’ smuggling can be seen as an attack on state revenue. Finally, ‘green’ activists have been known to take great exception to the passage of oil-rigs and to the arrival of ships loaded with genetically modified soya, fearing that they represent a threat to the environment.¹⁶ But for all that, most attention has been paid to three types of cargo dangerous to good order in their various ways—terrorists, drugs and illegal migrants.

Terrorist cargoes

The events of 11 September 2001 in New York and Washington are a reminder of the threat posed to good order by terrorism. Navies need to respond to three aspects of this threat.

- The interception of the MV *Nisha* by the Royal Navy in December 2001 and of the *Karine-A* by the Israeli Navy in January 2002 in the wake of 11 September, show that terrorists may, like anyone else, use merchant vessels to transport people and weaponry from place to place. Through 2002 Coalition warships operating off the coast of Pakistan and into the Arabian Sea monitored passing shipping to ensure that al Qaeda/Taliban forces were not escaping from Afghanistan by this means. The practical problems posed by this task are considerable. The MV *Nisha* took weeks to search (nothing was, in the end found) and illustrated the potential tensions between optimal trading conditions on the one hand, and the requirements of security on the other. Moreover, tracking trans-shipments and the passage of particular ships in the murky world of containers and flags of convenience calls for a complex and integrated global effort from all states interested in the maintenance of good order. It also exemplifies the death of distance—and the way in which far-off threats can unexpectedly appear in one's own waters.¹⁷
- At the same time, there was a good deal of concern that terrorists might use merchant ships as weapons of war, perhaps attacking key bridges or port facilities. In Japan, the Coastguard service was enlisted to help defend the country's 51 nuclear reactors from sea-based attack.¹⁸ In the United States, the US Coast Guard (USCG) exercises the main responsibility for dealing with this, and has become part of the country's Homeland Defence arrangements. Around the world there is increased focus on all aspects of port security. Even the outgoing US Navy has found itself returning to the role of defending the country's sea frontiers from potential attacks of this sort, in a set of duties that merges with the coastal defence tasks discussed earlier.¹⁹
- Sometimes this threat may extend to warships themselves, and to their bases. While the attack on the USS *Cole* in Aden is, so far, the most notorious example of this, there have been several other instances off Sri Lanka, and in June 2002 there was much talk of al-Qaeda terrorists targeting US and British warships passing through the Straits of Gibraltar. There is, of course, nothing new in this. British warships, and their crews, maintaining the Palestine patrol in the 1940s were in constant peril of ambush and sabotage from Jewish terrorists when in harbour in Haifa and had to take active measures, for example against frogmen attack.²⁰ While constant vigilance was the answer, it was tiring and sometimes demoralising. Since the attack on the USS *Cole*, and the earlier failed attempt against the USS *Sullivan* (when the terrorist boat sank under the weight of its own explosives), the US Navy has been actively exploring technical means of defending their ships adequately against such attack without having to resort to desperate pre-emptive measures (such as automatically blowing any suspect vessel out of the water, which would hardly be conducive to effective naval diplomacy). As always, a balance needs to be struck between security and operational effectiveness.

The drugs trade

The drugs trade is certainly a threat to good order, nationally and internationally. It kills about five times as many Americans every year as did al-Qaeda on 11 September. At about \$500 billion a year it is larger than the global oil trade.²¹ It often operates alongside terrorism and other forms of organised crime and damages social prosperity and stability at every level.

There is a significant but varying maritime dimension to the supply of drugs. Across the Indian Ocean, conventional merchant ships bring heroin and opium to Europe from the so-called 'Golden Triangle' by way of major ports such as Karachi, Mumbai, Dubai and Istanbul. In the Caribbean, specialist 'go-fast' boats, semi-submersibles and large cruise ships bring drugs to the United States. The International Maritime Organisation (IMO) takes a leading part in establishing guidelines in dealing with the trade, which it encourages all agencies of its member countries to follow. Almost invariably international collaboration is required to deal with what is in effect a global crime, in which national borders are no more than a minor inconvenience. Sometimes naval forces are required merely to monitor traffic, sometimes they may engage in dramatic chases. One such was by HMS *Coventry* in September 2001, chasing a 37-knot 'go-fast' boat into the cays off Belize, using its radar and infra-red detection equipment, and its helicopters forcing the abandonment of cocaine worth £40 million. In the four years 1998–2002, Royal Navy warships have seized drugs worth an estimated £1.25 billion.²² To play their part in combating the drugs trade, navies and coastguards need access to the intelligence provided by global tracking arrangements, extensive, integrated air and radar surveillance, fast agile and specialist craft, a host of special skills, and the ability to interoperate with other forces of law and order, including those of other countries. While many of these characteristics typify standard naval equipment and operations, some of the most important are special to the task and require dedicated training and sustained effort.

About half the Caribbean cocaine seizures in 2000 were made with naval help, but the fact that USCG, arguably the best coastguard in the world, *aspires* to a seizure rate of just 15 per cent of the drugs passing through this transit zone indicates the scale of the problem.

Illegal migrants

The large-scale movements of people from one area to another have always been a part of human development and appear inevitable for the foreseeable future. This has an important part to play in the economic stabilisation of ageing populations in places such as western Europe; it can also be seen as a means of increasing social equity around the world. However the increase in the *rate* of migration, especially from areas devastated by war, social failure in the face of accelerating populations or natural disaster, has reached levels that many in the receiving countries feel are unsustainable. Limits and qualifications for acceptance of people as economic migrants or refugees are therefore imposed.

None the less, their desperation makes such people impatient of regulation and a prey therefore to the 'snakeheads', the criminal gangs who illegally ship them to their destinations in return for exorbitant fees. The adverse consequences of this dreadful trade

in people are many and various. It enriches criminals who are also often associated with other forms of smuggling, and sometimes terrorism. Illegal migrants are shipped around, often in appalling conditions and substandard ships, in total contravention of the 1974 SOLAS Convention. Hundreds, perhaps thousands of illegal migrants drown every year when their boats sink. Even once inserted in the host community, illegal migrants are vulnerable to ruthless economic and social exploitation, a prey to prostitution and working conditions akin to slavery. In extreme cases they can themselves become an involuntary threat to good order in their new environment.²³

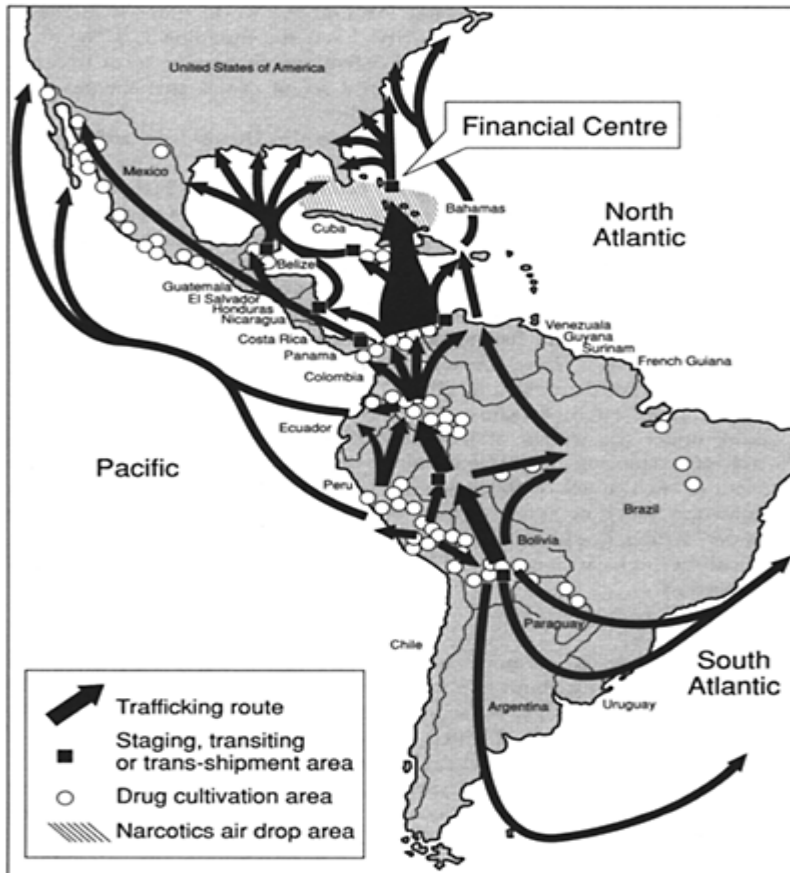


FIGURE 10.2 South American Drug Routes

Navies, coastguards and marine police deal of course only with the symptoms of the trade in human beings, not its causes. Although surveillance, international cooperation and patrol will be as useful here as it is in dealing with drug smugglers, three special

considerations also apply. First, there are real legal difficulties. Some countries (such as Indonesia) do not regard people smuggling as a crime, and, as was revealed by the Australians' experience with the *Tampa* incident in August 2001, there are no precise and agreed regulations on how such matters should be conducted. The absence of such common ground rules makes the international cooperation so necessary for the containment of this trade very difficult.²⁴

Second, there are the sudden and unexpected surges in attempted migration that follow some unpredicted disaster which can simply overwhelm the maritime forces trying to deal with it. Between 1992 and 1994 neither the US Navy nor the US Coast Guard could on their own have coped with the flood of illegal migrants coming across the Caribbean from Haiti and Cuba. In 1994, 60,000 migrants were intercepted within seven months. In 2001, the Royal Australian Navy attempted to stem the tide of thousands of would-be migrants from Iraq and Afghanistan by patrolling a vast arc of ocean from Christmas Island to Ashmore Reef, a major effort requiring three frigates, an underway replenishment ship and an amphibious transport ship HMAS *Manoora*, supplemented by four P3C Orion maritime patrol craft and a number of Fremantle-class patrol boats and Coastwatch surveillance aircraft. Partly, this was a consequence of reported deficiencies in the Indonesian fleet, through whose waters the migrant ships normally sailed.²⁵

The third problem is the tactical task of dealing with people, innocent civilians for the most part, desperate to avoid being turned back. This is no new problem, however. From 1945 to 1948, the Royal Navy maintained the highly effective Palestine patrol, designed to stem the flood of illegal Jewish migrants flooding into Palestine. The fact that of the 50,000 migrants who sought to come ashore, fewer than 3,000 made it was remarkable enough in the adverse conditions prevailing; what was more remarkable still was the very low rate of loss of life for either side—even in the face of desperate provocation and in the full glare of an international media largely on the side of the migrants.²⁶

Migrant ships, which were sometimes desperately unseaworthy, weaved about to make boarding by smaller naval vessels very difficult. Once on the ship, the small boarding parties were abused and assaulted often by women, children and old people, attacked with iron bars, hatpins, boiling oil and steam hoses. Bridgehouses were often effectively fortified and steering systems sabotaged. Initial attempts to deal with all this had mixed success but hard, realistic and specialist training by Royal Marines based in Malta made later boarding parties much more proficient in seizing the initiative and in controlling the situation with the minimum of injury to either side. This largely neglected campaign deserves much study, since it provides a model of how such distasteful duties should be performed.²⁷ None the less, they will always be very difficult and will require high standards of seamanship and specialist training, not least in the use of non-lethal force. The widespread and growing incidence of this trade in human beings suggests that most navies will need to prepare for it, whether they like it or not.

10.4 THE SEA AS A MEANS OF GAINING AND EXCHANGING INFORMATION

In some ways, of course, the historic function of the sea as a means of acquiring and exchanging information and ideas has been lost to the internet, although the use of the

phrase ‘surfing the internet’ perhaps harks back to it! All the same, the sea remains a hugely important source of knowledge about the planet we live on and about human history.

Understanding our Future

The sea perfectly illustrates the paradox that we do not know what we do not know, and the more we know the more we realise how true that is. Most obviously, as the Australians have pointed out, marine biotechnology is a developing field, and since marine biological diversity is so much greater than its terrestrial equivalent it ‘represents a vast, relatively untapped source of potential new materials, compounds and organisms’.²⁸ The need to protect this invaluable storehouse of future knowledge from present unknowing damage reinforces the drive towards more regulation and environmental protection of the sort to be discussed in the next chapter.

The more we know about the sea, the better able we are to exploit its benefits sustainably. This is an obvious explanation for the burgeoning growth of interest in oceanographic research, since it could easily prove crucial to our future. The ocean floor, for example, is covered with the results of volcanic activity, much of it violent and continuous. This is associated with earthquake activity, the movement of tectonic plates forming the continents, and produces huge molten lava lakes under a thin mobile canopy of frozen solidified volcanic rock. Harnessing the tremendous energy to be found in these volcanic magma chambers and exploiting the unimaginably rich minerals they produce through undersea vents could be the key to global survival in the generations to come.

Understanding Our Past

‘Methought I saw a thousand fearful wrecks;
 Ten thousand men that fishes gnaw’d upon;
 Wedges of gold, great anchors, heaps of pearls,
 Inestimable stones, unvalued jewels,
 All scattered in the bottom of the sea.’

Shakespeare, *Richard III*, I/4

While the sea may prove crucial to our future, it helps us understand our past as well. Indeed, current research indicates that the ocean may have provided the real origins of life on this planet—perhaps in the bacteria colonising the volcanic rock of the ocean depths in a process of chemo-synthesis quite independent of the sun.

More familiarly, there is growing acceptance that the sea should be seen as a repository of mankind’s maritime heritage. While legal ownership of the actual artefacts that can be found on the bottom of the sea may be a complicated matter, the heritage it represents belongs both to particular peoples and to mankind in general. Extraordinary advances in underwater technology in the hands of undersea explorers such as Dr Robert Ballard have produced amazing discoveries of Roman merchant ships lost on their way to

Carthage through the Tyrrhenian Sea, of the RMS *Titanic*, of the USS *Yorktown*, 17,000 feet down in the Pacific. Even more excitingly, the absence of oxygen in the dark saline depths of the Black Sea may well have preserved wooden ships of the ancient world and an ancient civilisation lost in a disaster 7,000 years ago that may have originated biblical traditions of Noah's Flood. These discoveries all show that the sea preserves human history in a way the land does not.²⁹

In recent years, UNESCO has taken the lead in pushing for legislation and arrangements that will protect mankind's maritime heritage from the plundering and destructive activities of treasure hunters operating on the ancient but irresponsible principle of 'finders keepers'. Dealing with this is a function of resources and priorities. It is still lamentably true that many governments either do not have, or do not choose to devote, sufficient resources to the protection of their own underwater heritage, preferring to license exploration and salvage rights out to private, foreign (usually Western), commercial concerns. These concerns have demonstrated a particular interest in finding bullion ships, and so are active in the waters of the old Spanish Main, off Cuba, Venezuela, Panama, and so on. They are more treasure hunters than marine archaeologists.

In some countries, the naval interest here arises from their responsibility for the supervision of wrecks and underwater historic sites. More substantially, it derives from the fact that it is their direct forebears who so often are the object of concern. An American history professor, exploring the underwater wreckage of the 1944 Normandy landings, made most of the main points in 2000:

The site is being taken apart. Charter boats are going over from Southampton, and there are divers from France and elsewhere who are going down there and getting things out—helmets, flame guns, and so on. These are the war graves of the largest naval action and probably the most significant, in the history of the world, yet they have no protection. A lot of men are in tanks and landing ships that never made it to shore, and these sites should be every bit as hallowed as the grounds of the military cemeteries on the cliffs above.³⁰

Moreover, these sites help navies and others to understand the evolution of ship design, the course of particular maritime events and their own historic experience and current culture. For that reason, navies themselves, quite rightly, are usually keenly interested in underwater exploration, because of its implications for their own identity and values. This is exemplified by the recent and remarkable recovery of the CSS *Hunley*, in effect the world's first operational submarine, that sank in action off Charleston in 1864 during the American Civil War. The CSS *Hunley*

- is a war cemetery;
- may help explain a mysterious event not fully understood before;
- represents a crucial stage in the evolution of a particular form of naval warfare.

For all these reasons, it is a matter of great interest for the US Navy, and to all naval historians.³¹

Nautical archaeology can reveal much bigger issues too. In 2001, Britain's 'Ferriby boats' from the estuary of the River Humber were reexamined. The boats themselves were large, melon-slice shaped, elegant, sturdy ships made of thick oak planks tied together with twisted yew. They show there to have been a flourishing trade between Britain and the continent of Europe 4,000 years ago, and thus illustrate the ancient and continuing linkages of the sea and mankind's development discussed at the beginning of this book.³²

Navies clearly have an interest in ensuring, directly or indirectly, that their underwater maritime heritage is not damaged or destroyed by governmental neglect or irresponsible treasure hunters.

10.5 THE SEA AS AN AREA OF DOMINION

This review of the benefits the sea has to offer shows just how important jurisdictional issues can be to their full enjoyment. Because those benefits are seen to be of increasing importance (not least as a contribution to a country's political, economic and military power), more and more attention is being paid to the sea as an area over which jurisdiction is claimed and exercised. The notion that parts of the sea 'belong' to certain parts of the landmass is not in itself a new one. In 1494, at the Treaty of Tordesillas, the Pope, after all, divided the whole world between Spain and Portugal. The idea that the sea could be 'owned', in the same way as land, lay behind the tradition of the 'closed sea' advocated by the English seventeenth-century jurist John Selden.

Sovereignty usually means having absolute and independent authority over a stretch of territory, and maritime sovereignty simply extends this concept to the sea. In effect, an area of sea is regarded as part of the territory of a state. Maritime sovereignty comes in two complementary varieties:

- It may be 'instrumental' in that it is something countries need in order to enjoy the benefits of the sea. In the case of archipelagic countries (like Indonesia or the Philippines), or countries with poor internal land communications (like nineteenth-century Norway or Brazil),³³ maritime sovereignty may also be fundamental to national integrity.
- It may be 'expressive' in that it is a symbolic representation of the power and values of a country. This is particularly evident in the ownership of islands. At times of national weakness, a country's capacity to maintain jurisdiction over its islands may often become quite tenuous. Its capacity to hold onto its islands becomes a kind of performance indicator of national pride and effectiveness. This helps explain the deep feelings Argentina exhibits towards the Falkland Islands, China towards Taiwan, Greece and Turkey towards the Imia/Kardak rocks, and so on.

To be accepted by others, both types of sovereignty need to be asserted, exercised and if necessary defended. Because the protection of its (in this case, marine) territory and its citizens from 'all enemies domestic and foreign' is the basic duty of, and justification for, the state, these matters are taken seriously, and, indeed, need to be. Accordingly, countries are increasingly concerned to exert, and in many cases, to extend, their jurisdiction over the sea. The adoption of UNCLOS provides the framework within

which this is being done. At present 151 coastal states have sovereign rights over adjacent seas and their continental shelf; 54 of them may be able to claim extensions to their sea area beyond 200 nautical miles from the coast. The result is that jurisdiction may well be extended over a total area of some 75 million square kilometres of sea, equal to more than half of the Earth's land surface.³⁴

Unsurprisingly, this has led to many problems. First, there are a great many areas of maritime dispute as a result. This is especially the case in the Asia-Pacific where a chain of islands stretching from just off Singapore to the South Kuriles, north of Japan, are the subject of often ferocious dispute between various countries. The ongoing dispute in the South China Sea is perhaps the most complicated, important and potentially dangerous dispute of this nature in the world. To this must be added a plethora of simpler and more technical disputes over the drawing of lines of maritime jurisdiction between neighbouring countries. UNCLOS does not in itself end these disputes; it provides a set of parameters by which such disputes should be resolved with the agreement of all parties concerned.

Second, since it is a fundamental principle of international law that, for sovereignty to be recognised, it needs to be asserted and exercised, many countries have now been faced with a real challenge on how they can possibly do it. Amongst the worst placed are the Pacific mini-states of Kiribati, with 690 square kilometres of land but 3.5 million square kilometres of sea, and the Marshall islands with 181 and 2.1 million square kilometres respectively. These are extreme examples of a common problem.

In an instructive analogy, Harold Kearsley has likened the task to looking after a big ranch—checking the fences, keeping out predators, constantly looking round and being seen, ensuring that its assets are always used to the best benefit of the owners.³⁵ It is difficult to specify what countries need in order to exercise their maritime sovereignty since this is a function of the extent of their sea area, its weather and the strength of the civilian and naval forces that might challenge it. But the first requirement is for a country to know what is going on in its sovereign area. In cases where the size of the area makes it impossible to maintain a continual presence, sufficient surveillance of the area has to be conducted by other means. Where that reveals actual or potential infractions of national laws and territorial rights, the sovereign state must have a demonstrable capacity to respond with graduated force³⁶ but it does not follow that such forces must be all-powerful, since their main function may be symbolic. Even weak forces can make a difference in maintaining sovereignty through the existential deterrence discussed in Chapter 9.6. The mere existence of low-level forces which the more powerful may physically need to brush aside can impose severe *political* limits on their freedom of action.

Experience none the less provides many examples of the damage that inadequate levels of maritime strength can do to a country's capacity to maintain its maritime sovereignty. The evident difficulties of the Philippines in responding effectively to the Chinese 'occupation' of Mischief Reef show the risks run by states unable or unwilling to demonstrate a capacity to defend their sovereignty claims. The reinvigoration of the Japanese Coast-guard and the issue of more robust rules of engagement to the Japanese Navy in the wake of apparent Chinese and North Korean 'intrusions' into their area of concern, and the willingness of both Koreas to take extreme measures in defence of their

views of the line of demarcation between them in the Yellow Sea, both suggest this lesson has been well taken in the Asia-Pacific.³⁷

10.6 THE SEA AS AN ENVIRONMENT

‘I’ll throw’t into the creek
Behind our rock; and let it to the sea.’

Shakespeare, *Cymbeline*, IV/2

The Marine Environment: Critical, Unknown, Threatened

To these four traditional values of the sea must now be added a fifth, the marine environment. For centuries taken for granted if thought about at all, its perceived importance grew dramatically through the twentieth century, roughly in line with increasing levels of threat. This too is likely to have significant implications for navies.

Although human beings are air-breathing, sun-loving bipeds, and not aquatic creatures at all, life started in the oceans and is still hugely determined by them. Ocean currents help regulate our climate. The sea slows and masks the effects of global warming because of its immense thermal inertia and its ability to absorb carbon from the atmosphere. Its water level, coral reefs and fish stocks act as a barometer of the physiological health of the planet as a whole. The deep ocean, in particular, may prove crucial to understanding our past and assuring our future. And yet much is still mysterious about the way in which the ocean system actually works.

But one thing we do know is that it is under increasing threat. In 1995, the United Nations set up the Independent Commission on the World Oceans (IWCO) to investigate threats to marine resources and possible ways of protecting them. Forty international scientists and political figures worked to produce a report which was released by Mario Soares, Portugal’s leading elder statesman at Expo 98. It made sombre reading. It argued that there was a ‘crisis of the oceans’ caused by pollution, jurisdictional disputes, over-exploitation and widespread ignorance. What takes hundreds, even thousands of years to develop can be unknowingly destroyed in days, and all too often is. Already two-thirds of the world’s population lives within 100km of the coast, and the pressure this puts on the fragile environment of the ocean is tremendous and bound to get worse, when the total population doubles over the next few generations.³⁸

For an illustration of what mankind’s use and misuse of the ocean has done, and the long-term risk it might pose to our own future, we need look no further than the poisoned sea off Mumbai. A thick pollution haze hangs over the scene. The slick from offshore oil refineries, dead fish, litter and untreated sewage lies on the surface of the water. No one swims from its beaches. To catch surviving fish, local fishermen must now venture much further from shore.

The general results of marine pollution loom over all aspects of sea use. In the seventeenth century, the seas were crystal clear, cleaned by trillions of shellfish, and so abundant in fish that early seafarers talked of simply lowering baskets into the water to catch cod in areas such as the Grand Banks of the North Atlantic. But these days the

ocean here and elsewhere has darkened and emptied and threatens all aspects of sea use and indeed of human life in a way which makes the arguments of states about who owns particular stretches of water look utterly trivial in comparison. In many ways, the collapse of the marine environment would be the ultimate disorder, fatally weakening prospects for the stability and security of settled society ashore.

And yet everywhere in Mumbai there are signboards urging more concern for the environment, a hopeful indication that at last the problem is being addressed. Indeed, around the world, environmentalism has come in from the margins of debate and is fast becoming a part of the mainstream of politics. UNCLOS, indeed, provides a comprehensive set of principles for the protection of the marine environment, and in Article 92 specifically obligates states to follow them. Similar commitments on the protection of the oceans are contained in Chapter 17 of the UN's Agenda 21.

Broadly, there is agreement about the causes of the problem—the sheer extent of mankind's appetite for the resources of the sea, land-source pollution of every kind and the clash of competing sea uses. The IWCO report and Expo 98 were not content merely to delineate the problems. They went on to suggest very many practical solutions. In fact in some areas, there have been substantial improvements already. For example, vessel source pollution is now much reduced on previous levels with the outlawing of such sloppy practices as washing out fuel tanks at sea, and so forth.

Much of this may be regarded as 'soft security' (distinct from the 'hard' security of alliances and wars), but it is 'security' all the same because it concerns an indirect attack on the prosperity and stability of international society and its constituents. Indeed, in the case of small island countries like the Maldives, Kiribati and Tuvalu, facing the prospect of extinction or massive damage through rising sea levels, it is hard to imagine a security issue that deserves to be taken more seriously.³⁹

Navies and the Marine Environment

Although civilian agencies bear most responsibility for the protection of the marine environment, navies also have a role to play. In January 1998 the Advisory Committee on the Protection of the Seas, meeting in Stockholm, sought to 'encourage states to use the capacity of their military and intelligence organisations towards environmental security in partnership with their civilian counterparts'.⁴⁰ The committee recognised that simply by being navies they had skills and technical qualities to offer, in terms both of research and of environmental protection.

It makes sense for navies to become involved for less prosaic reasons also, not least because there is a security dimension to environmental stress. For many of the tiny island states of the South Pacific, together with the Maldives in the Indian Ocean, their very existence is at stake. Many other low-level areas like Bangladesh, coastal China, even Florida, are at increasing risk. Moreover, experience suggests that political quarrels and instability may accompany disasters that undermine the authority of government. In helping deal with humanitarian disasters such as Hurricane Mitch, navies were not only responding to the indirect consequences of global warming, but also helping avert worse things that might otherwise follow.

Navies and coastguards may also have a mediation role in dealing with disputes between different kinds of sea users, where there is often a need to keep the peace, for

example between whalers and Greenpeace boats in Norwegian waters.⁴¹ Lastly the concept of 'environmental crime' is fast developing, and navies may well have a role in suppressing it.

But what can navies do to protect the marine environment directly? They do frequently help clear up or avert pollution risks that result from other types of sea use, most obviously from shipping accidents, such as the grounding of the *Exxon Valdez*, by contributing to the disposal of oil-wastes. Navies can be first to the site, ready to conduct the first survey, to take emergency measures (such as early spraying of oil slicks) and to provide command and control arrangements.⁴² Usually, other agencies are better suited and more cost-effective for longer-term responses to pollution incidents.

Sometimes other specialist naval skills can help as well. The US Navy's eventual torpedoing off the coast of Oregon of the paper-carrying freighter the *New Carissa* is a recent illustration, for example, of the capacity to sink the wrecked ships that might otherwise produce pollution. Illustrating the same point, the Thai Navy's special forces are, as part of their normal training, given courses in marine conservation so they can help protect the country's coral reefs.⁴³

A yet more important contribution that navies make is not to be a cause of pollution themselves. This may involve helping clear up the dangerous and noxious detritus of war and military operations (dealing with mines and bombs dropped in the sea, disposing of dangerous or polluting wrecks such as the USS *Mississinewa* sunk during the Second World War and now leaking oil onto Ulithi Atoll in Yap state in Micronesia).⁴⁴ Perhaps the most serious environmental threat of this sort is the requirement safely to dispose of unwanted reactors from nuclear submarines, and contaminated hull parts, of the former Soviet Navy.⁴⁵ It may mean navies doing their best to make sure that the environmental impact of training activity and research is properly understood and weighed in the balance before decisions are taken.⁴⁶

Self-interest is tending to push things this way, since unless navies conform to such environmental concerns their own utility could be affected. Some countries, for example, want to reduce the sovereign state immunity of warships so that they become susceptible to the safety and environmental regulations that bind civilian shipping. This encourages increased interest in 'environmentally friendly' warship design. The on-board disposal of ship wastes (especially oil, plastics, hazardous material, medical wastes, and so on), for example, allows navies to demonstrate leadership in the stewardship of the oceans. But it may also facilitate naval operations, in that there is less chance of floating plastic debris being confused with mines as sometimes happened in the aftermath of the 1991 Gulf War.

Moreover this would reduce the prospect of naval operations being one day constrained by regulations of the International Convention for the Prevention of Pollution by Ships (1973 MARPOL Treaty, and 1978 Protocol) designating special areas such as the Mediterranean and Black Seas, the North and Baltic Seas, the Red Sea and the Gulf, and the Gulf of Mexico and the wider Caribbean, in a manner that would be uncomfortable for warships.

Through their research effort, perhaps above all, navies can help mankind know and understand more about the marine environment.

10.7 THE NEED FOR GOOD ORDER AT SEA

In the year 2001, the International Maritime Bureau (IMB) issued a report lamenting the increase in piracy in Indonesian waters, and attributing this to a general breakdown in law and order in the area, and to the activities of separatist guerrillas in Aceh and elsewhere. This was creating a vicious downwards spiral; it disrupted passing shipping and local fishing activities, and damaged local and national economies, thereby reducing the revenues and authority of local governments and weakening their capacity to maintain good order at sea and—more to the point from the terrorist's angle—ashore.

Because the sea is increasingly important, in relative terms, to local economies, disorder at sea only makes things worse ashore. The success of transnational crime such as drug-smuggling elevates the power of the kind of people who challenge civilised states and everything they stand for; it undermines their prosperity, security and ability to connect with other countries. Countries that fail for such reasons tend, moreover, to become the security concerns of others. This example demonstrates both the intimate, two-way linkages between good order at sea and good order on land and the simple fact that, without it, mankind's ability fully to exploit the potential value of the sea will be severely constrained. The Director of the IMB's conclusion was unambiguous: 'Security along the coast has to be tightened.' To a greater or lesser extent, this recommendation should be extended to all the world's seas.⁴⁷

The maintenance of good order at sea requires an improved level of awareness, effective policy and integrated governance. Only a 'holistic' all-round maritime approach does justice to the complexity and importance of the linkages between the different values of the sea and its manifold connections with events ashore.

Navies, coastguards and other maritime agencies have an increasingly vital contribution to make in support of good order at sea. Until very recently, however, such activities have been almost totally ignored by the main maritime thinkers. They were regarded as something that navies could do when nothing more important was occupying their attention; usually other maritime agencies bore the main burden. None the less, the need for navies to address such issues more seriously grew steadily through the last century and seems likely to develop even faster in this one.

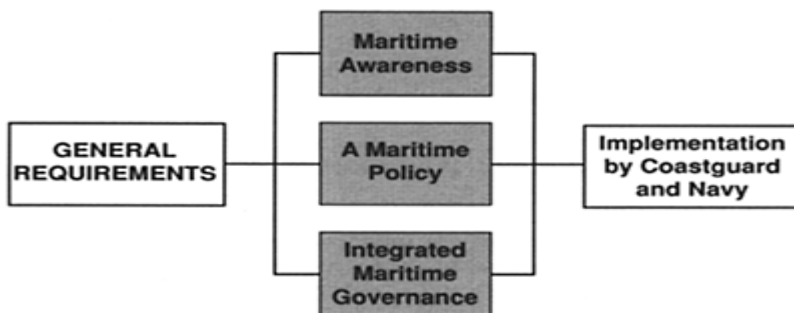


FIGURE 10.3 Good Order At Sea:
General Requirements

The remainder of this chapter will review the role of navies in helping to resolve present and future difficulties in the maintenance of good order at or from the sea under four main headings, as shown in Figure 10.3 (above). We will then look at the implications of these requirements for navies. It will be shown that such activities only make sense when seen in the context of the many other uses of the sea.

10.8 INCREASING MARITIME AWARENESS

The ocean may well prove the key to our future as well as to our understanding of the past. And yet, despite all this, there is much that we do not know. We are still only speculating about the physical, chemical and biological processes at work in the ocean-earth-atmosphere system. Exploration of the deep ocean only began 25 years ago and much of it, especially in the southern hemisphere, is virtually unexplored. We know far less about the deep ocean than we do about the surface of the moon, and barely 5 per cent of it has been properly 'imaged'. Discoveries in the huge mid-ocean ridge (which comprises some 23 per cent of the world's surface and contains the highest mountain ranges we have) are recent and often accidental, or incidental. One new marine species is discovered every two weeks. The more we discover about the deep ocean, the more we realise what we do not know.⁴⁸

In fact, many would argue that this applies more generally. The real conclusion here may be that we do not really understand how important the ocean is to the world's climate and environmental health, still less how important it will be in the future. We need to understand what we are doing in, and to, the ocean as basis for future policy.

Navies and Scientific Exploration

Navies have always had a stake in ocean exploration. In the early days, as we saw in Chapter 1, this was largely in pursuit of improved navigational capability and an overwhelming desire to get to profitable places faster and safer than anyone else. In the eighteenth and early nineteenth centuries, naval expeditions usually involved scientists anxious to know more about distant lands for what they might reveal about the mysteries of life. Charles Darwin's epic voyage in the warship HMS *Beagle* showed that scientific exploration was part and parcel of seapower.

But interest in the ocean itself (rather than in places on the other side of it) is traditionally traced back only to 21 December 1872 when HMS *Challenger* departed on three and a half years of exploration under Edinburgh University's Professor Charles Wyville Thomson. This formulated the goals, systematic methods and careful analysis that became the standard of oceanographic research around the world.

In the twentieth century, naval interest in oceanography was hugely stimulated by the advent of the submarine, since information on the depth, temperature, salinity, colour and currents of seawater and the contours of the ocean floor could be hugely important for obvious operational reasons. If you were skulking about off an enemy coast in a submarine and seeking to avoid sonar detection, it could be really important whether you were in the presence of hard, reflecting rock or soft and yielding mud and ooze. This became even more important during the high-technology Cold War era.⁴⁹ With such

developing techniques and incentives, the sailor's attitude to the environment in which he operates may be transformed. The deep sea bed, for example, instead of being dark, mysterious and frightening, something to be avoided at all costs, may need to become a familiar area to be exploited for its scientific interest and its commercial and strategic value.

The Arctic, and the secrets of polar operation in the presence of ice masses, have become increasingly important too. For nearly a century, the Russians led the way in this area. Under Stalin in the interwar period, the Soviet Navy and Air Force were keenly involved in all aspects of polar exploration, partly reflecting and partly moulding a social dream of a pure Northern world where physical bravery, ideological fervour, scientific expertise and party support would establish an exciting new Soviet society, becoming folk heroes in the manner of the astronauts of the 1960s.⁵⁰ More mundanely, the observations of nuclear submarines on ice thickness provide invaluable data for scientists struggling to understand global warming.⁵¹

The same kind of operational incentives inspired naval interest in the conduct of amphibious operations, especially of the Second World War. Extensive surveys were conducted before major landings such as the Torch landings (1942) and the Overlord operation (1944) because the predict-ability of sea swell, surf and beach conditions could make all the difference. As has been recently pointed out, 'By 1943, oceanography had clearly demonstrated to the frontline officer that knowledge of the environment could mean the difference between victory and defeat, life and death.'⁵²

The need for more knowledge is nowhere more apparent than in the littoral—currently the primary area of maritime interest. The Rapid Environment Assessment (REA) programme sponsored by SACLANT arose from the fact that the littoral is an extraordinarily complex environment in which 30 key factors (currents, reefs, salinity levels and gradients, and so on) that could decisively affect the outcome of operations have been identified. Near-instantaneous access to modelled sets of data on the world's littorals, almost at the touch of a button, could easily prove of enormous military benefit. It also helps establish the basis for jurisdictional claims.

For all these reasons, navies need to keep abreast of, and contribute to, the accumulation of all types of marine data through such means as the Global Ocean Observation system. The IWCO report was clear that this kind of research could be of benefit for non-military purposes too, in a host of ways. 'Navies', it says, 'should also play a growing role in sharing the information and capabilities required to safeguard environmental security.' They do already, in fact. The unmanned deep-water vehicles used to explore the *Titanic*, for example, developed from systems originally intended by the US Navy to monitor two sunken SSNs, the *Thresher* and the *Scorpion*. Because the resources (money, scientists, research platforms, facilities) they devote to ocean science can be so huge, navies can make an enormous difference to our knowledge of the sea and the protection of the marine environment. This could be increased still further, if old data of scientific interest were more fully released, and if, to quote Captain Cook's Admiralty, in the 'same enlarged and benevolent spirit' environmental data collection were added to warship missions as a matter of course.⁵³

Navies could also be instrumental in 'selling' the importance of the sea to governments and public opinion around the world which would seem to be increasingly afflicted by what has been called 'sea-blindness'—or at least that is how it is frequently

seen by many seafarers. In some ways, therefore, the biggest threat to the maritime future is an insidious one of ignorance and neglect amongst the general population and some parts of government. All too often the sea is associated with images of decline, reducing fisheries, environmental catastrophes, shipwrecks. Even the common phrase 'all at sea' betokens chaos and confusion.

Maritime analysts and naval historians constantly bemoan the fact that the sea is given such scant intellectual regard in the study of international politics and history at universities from which future generations of decision-makers will come.⁵⁴ It is to correct this tendency that so many maritime forums and foundations have been set up around the world.

Navies are in a good position proactively to help sell the sea in all its aspects, strategic, commercial and environmental, because they are often in the public eye, they are inevitably involved in scientific and oceanographic exploration, institutionally they are integrated into government at the national level and operationally they are multinational at the regional, if not global, levels.

But, of course, in many cases this would go against the grain of services preoccupied with more urgent operational matters and culturally averse to engagement in politically contentious matters. In the Royal Navy of the interwar period, for example, there was thought to be 'something very sordid' about the use of 'propaganda' to win public favour in this way. Officers owned to 'an intense feeling of repulsion at this blazoning forth of the deeds and acts of what they have always been proud to think was a 'Silent service'.⁵⁵ None the less, the requirement for more knowledge, and for more public awareness of the importance and the characteristics of the ocean may now have become so important to the future of life on this planet, that furthering it by every means possible should probably be regarded as a subsidiary function, even a duty, of the world's naval and coastguard forces.

10.9 DEVELOPING MARITIME POLICY

Maritime good order is most often threatened when sea uses clash. The interests of oil extractors may compete with those of fishermen. When the old oil tanker *Erika* went aground on the coast of Brittany in December 2001 as a result of sloppy operational practices, it released oil that polluted beaches, hurt the tourist industry, threatened nearby oyster beds and killed thousands of guillemots and other seabirds. Likewise, it would be easy to imagine an incident in the Straits of Malacca in which a hi-jacked oil tanker founders on a distant reef, causes pollution, requires naval forces to break off from important multinational exercises, puts up marine insurance rates, bankrupts a P&I club in London, rescues a struggling Dutch salvage firm, devastates local fisheries, sets local countries at odds with each other and ruins a nearby resort catering for Japanese and European tourists.

This shows that the ocean needs to be thought of as a global system characterised by countless interconnections in which a disturbance in any one component may well affect all the others. It means the ocean system has to be thought of and treated *as a whole*, while at the same time properly integrating elements of it into land-based systems. For instance, the British government's desire to shift freight off the roads should clearly

consider Ro-Ro ferries as well as railways, but for that to make sense, shore-side port unloading, storage and transport facilities need to be linked in to a thoroughly intermodal transportation system. Maritime interests do not stop at the shore line.

Australia can justifiably boast that it has established itself 'as a world leader in implementing integrated oceans planning and management' through the establishment in 1998 of a comprehensive oceans policy of the sort that has long been advocated by analysts. Australia has one of the world's largest EEZs and intends to

provide a strategic framework for the planning, management and ecologically sustainable development of Australia's fisheries, shipping, tourism, petroleum, gas and seabed resources while ensuring the conservation of the marine environment.

...If we were to continue without integrating our oceans planning and management, we could not be confident that Australia would avoid following so much of the rest of the world in a spiral of marine resource degradation.⁵⁶

There is much to be said for the view that this should become something of a model for other countries to adapt to their own circumstances and follow.

10.10 DEVELOPING INTEGRATED MARITIME GOVERNANCE

The naval and civilian agencies that seek to maintain good order at sea need to develop an increasingly integrated approach to oceans management; they must think, talk, plan and operate together.

This applies at the international level as well as the domestic. The IWCO report urged that the high seas, the area outside any form of national jurisdiction, should be treated as a public good 'to be used and managed in the interests of present and future generations' of all peoples of the world, not just the fortunate few whose rights were already recognised and who had the capacity to enforce them. Ocean resources must be distributed efficiently and equitably, and that requires good governance at an international as well as national level.

The IWCO report also emphasises the fact that many ocean problems cannot be sorted out at a national level. Fish do not recognise national jurisdiction, and the effective management of 'straddling stocks' requires collective agreement. Pollution control, anti-drugs operations, the control of people smuggling, and so on, also require international agreement and collaboration. In all these cases, an insistence on traditional sovereignty would hamper progress.

The development of regional conservation regimes in the Arctic under the stimulus of scientists, environmentalists and local publics shows what can be done with a 'bottom-up' approach to effective and agreed ocean management. In the Arctic, this is complemented by a top-down approach centred on governmental agreement by the eight countries operating under the umbrella of the Arctic council.⁵⁷ This is a common pattern. Naval cooperation aids this process of specialised coalition-building; conversely this improves security relationships between countries too.

The Law of the Sea: A Framework for Action?

On the face of it, the extensive development of the law of the sea should provide a much improved legal framework for the defence of good order at sea. This is largely the result of UNCLOS, which after many years of tortuous negotiation finally came into effect in 1994. Its main provisions are:

- Coastal states have sovereignty over their territorial sea extending up to 12 nautical miles (nms) from the shoreline.
- They also have certain rights over a 'contiguous zone' for up to another 12 nms.
- Coastal states have sovereign rights over the natural resources of an Exclusive Economic Zone (EEZ) extending up to 200 nms.
- Coastal states have sovereign rights over their continental shelf, in certain conditions, beyond the EEZ.
- Sea-bed resources outside national jurisdiction are regarded as the common heritage of mankind, and any revenues they produce are to be equitably shared amongst the international community.
- Traditional freedoms of navigation, overflight, scientific research and fishing are enjoyed by all states on the high seas.
- Foreign vessels, including warships, are allowed 'innocent passage' through territorial seas.
- The International Tribunal for the Law of the Sea settles disputes and facilitates agreements between members.
- Detailed guidance is provided for the resolution of jurisdictional disputes between members.
- Finally, and this is a point often overlooked, with all these rights go equivalent duties of care.

Overall, UNCLOS provides a flexible and comprehensive framework for the maintenance of good order at sea, that is likely to be further developed in the years ahead. UNCLOS illustrates the way in which mankind's

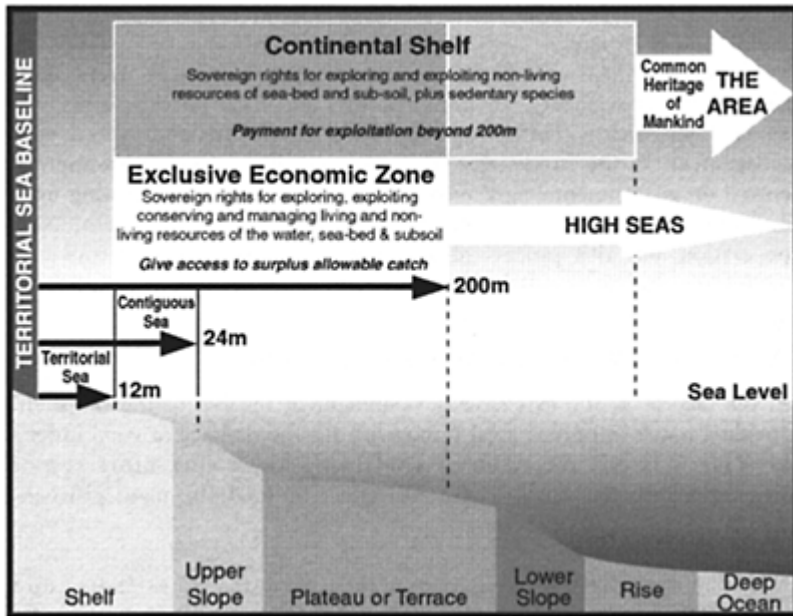


FIGURE 10.4 Maritime Zones

relationship with the sea is fundamentally changing. UNCLOS was indeed, in the words of the UN Secretary General, 'one of the greatest achievements of this [the twentieth] century'.⁵⁸

Implementation and enforcement remain a problem, however. While some countries have yet to ratify the treaty formally, there is no serious objection to its main provisions, with the possible exception of US opposition to those relating to the economic exploitation of the deep sea bed. None the less, considerable problems remain in interpreting and applying legal provision to the particular problems in particular areas in which people tend to be more interested. In some ways UNCLOS, by raising so many issues, has triggered as many disputes as it has resolved. Moreover, the powers of the tribunal are limited to countries that agree in advance to be bound by its findings. Often, though, the real problem is the lack of an effective means of enforcement.

Developing Domestic Maritime Governance

Enforcement problems are frequently mainly attributable to degrees of state failure and difficulties in governance ashore, as in the Indonesian case mentioned above. Often the most serious adversaries are not competing nations but non-state actors of one sort or another, bent on extracting benefit from the sea in total disregard of everyone else. Even for effective countries, differing sea uses overlap, often compete, and need supervision.

But this will not be easy, since there remain differences of interest and perception between different types of sea-users. Satellite surveillance of the oceans, for example, show how frequently MARPOL Convention restrictions on marine pollution are flouted

by merchant ships. Although this is happily declining, far more oil is deliberately released into the ocean through sloppy ship operation than through marine disaster. Most agree the answer to such violations is the extension of coastal and port state controls so that passing merchant ships can be identified and later punished when they dock. This approach is enthusiastically supported by marine conservationists, but often viewed with much less favour by certain parts of the shipping industry.

To many of the latter, the tendency towards the expansion of regulation, in this or any other area, is always controversial. Some dispute the need for more regulation, arguing instead either that hard-pressed governments cannot afford to take up this extra administrative burden, or that economic rationality will in the end provide the disciplines needed. An integrated oceans policy should provide an effective framework for mediation between such interests and differences of view.

India provides an interesting example of the tensions and disagreements that may arise. Some authorities, citing the ‘abysmal neglect’ of maritime matters, call for a national maritime security policy, pointing out that as many as 14 ministries of the central government, in addition to the departments and organisations of local and central governments, are currently involved in various aspects of the country’s maritime affairs, leading to considerable confusion and overlapping of jurisdiction. But, in other Indian circles, there is fear that an equitable balance between all interests will be distorted by excessive emphasis on the naval/security element (especially given the country’s problems with Pakistan in the wake of the events of 11 September). Yet others worry that too much emphasis on regulation—in, say, the shipping industry—will stifle the enterprise culture that is beginning to emerge in the country after decades of central control.⁵⁹

Generally, the need to regulate activities at sea, and activities on land which could threaten other peoples’ uses of it, is increasingly accepted. This has resulted in a growing body of national and international regulation which naval and coastguard forces will increasingly need to monitor and enforce. The bigger their EEZ, the greater their responsibility.

Navies and coastguards should clearly be parties to the formulation and development of such an integrated policy of ocean management, partly because their own sectional interests might be affected and partly because they are likely to be involved in its consequent implementation.

10.11 POLICY IMPLEMENTATION: THE NAVY-COASTGUARD SPECTRUM

Good order at sea requires a range of activities extending from law enforcement at one end of the spectrum to the defence of security at the other. As Figure 10.5 shows, responsibility over this spectrum may be shared between naval forces and a variety of coastguard and civilian agencies, with a degree of overlap in the middle.

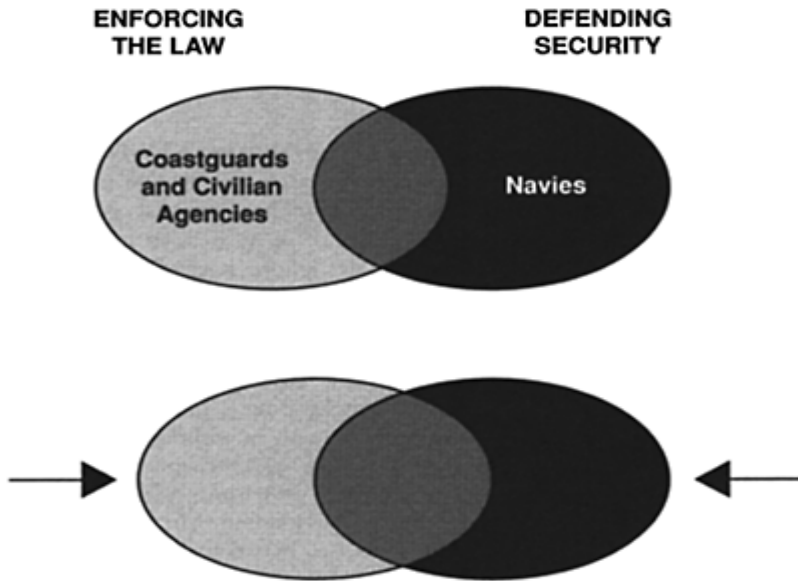


FIGURE 10.5 Closing Circles of Jurisdiction

With the widening of the concept of security, accelerated perhaps by the events of 11 September, the extent of potential overlap is increasing in ways which raise issues over who should be responsible for what. Because no one can do everything, the main emphasis in ocean management will be on the efficient co-ordination of the various forces concerned with its implementation.

These forces include navies, coastguards and other governmental agencies. The US Coast Guard, for example, shares responsibility with a whole host of other organisations including:

- National Marine Fisheries Service
- Office of Hazardous Material Safety
- Immigration and Naturalisation Service
- US Customs Service
- Drugs Enforcement Agency
- Federal Bureau of Investigation.

Added to this, in countries such as Australia and India there is a need to co-ordinate policy implementation between a variety of local and regional authorities. Finally, some governments have been attracted by the apparent cost reductions promised by 'out-sourcing' activities to private contractors.

The result of all this is an enormous variety of models of how countries have decided to co-ordinate the various agencies involved in oceans management, according to their individual geographic conditions, constitution, political outlook, and so on. The British 'solution' to the problem is an extreme example of a system that has just evolved

organically over the years, adapting as necessary to changing conditions.⁶⁰ Other countries (India, Argentina, Taiwan and much of South-East Asia) have taken conscious decisions to set up coastguards to look after their maritime domains, and have picked and mixed from the various possibilities being practised elsewhere.

Broadly, four approaches can be discerned. These involve ascending degrees of naval involvement in ocean management.

The US Coast Guard (USCG) model

The USCG is a separate military service, the only one with law-enforcement powers. It is a specialist force, concentrating on a wide variety of ocean-management tasks. It contains a force of ships and aircraft stronger than many other navies, and in wartime performs a variety of military functions. In peacetime, it can go 'out of area' in the wider defence of US maritime interests and can engage in a variety of activities that could be termed 'coastguard diplomacy'. The USCG, for example, prides itself on the international assistance it can and does offer other countries. The Japanese Coastguard (or Maritime Safety Agency) has likewise been involved in delicate negotiations with its counterparts in South-East Asia to increase cooperation against pirates. Coastguard ships are often more acceptable politically than standard warships.

Although separate from their navies, such coastguards maintain close relations with them in the expectation that this will facilitate economies of scale and efficient co-ordination. This is the thinking behind the idea in the United States of a 'National Fleet', formed of both the USCG and the US Navy. With the US Navy downsizing to some 300 ships, the USCG's 40-odd 'cutters' begin to look rather important to the Navy's capacity to cover all its tasks in time of conflict. This is especially true with the USCG having embarked in 2002 on its ambitious 'Deepwater' re-equipment programme.

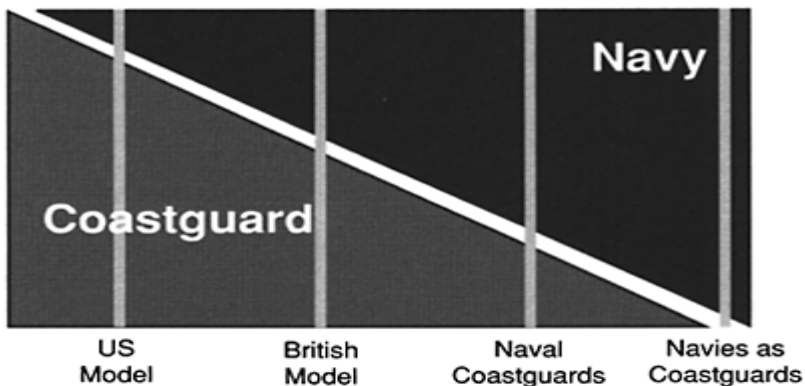


FIGURE 10.6 The Navy/Coastguard Spectrum

Although, as Figure 10.6 shows, naval and coastguard roles do still overlap, there is a clear differentiation of function between the two. The Navy has no powers of arrest and

even to engage in maritime interception operations of merchant ships will normally embark USCG personnel.

Pure coastguards of this sort may sometimes be seen as rivals rather than partners to the navy. Conversely they may not attract sufficient funding. Even the famous USCG has suffered years of under-investment, partly because its ownership is shared between two departments (Defense and Transport) neither of which regard it as their top priority.⁶¹

Many countries have followed the US example, including Korea and Japan, and more recently India, although most have given it an individual spin. For political reasons, the Japanese Coastguard, not the Navy, is responsible for sovereignty maintenance; in India, however, the Navy very definitely retains responsibility for dealing with anything that might be a threat to the state, such as mines, sabotage, the examination of suspicious merchant ships, and so forth.

If, in terms of size and capability, the USCG is clearly up the powerful end of the coastguard spectrum, there are many less ambitious but still effective versions. The Hong Kong Marine Police (1948–97) was a unique variant on this theme, perfectly suited to Hong Kong's geographic and political circumstances. It was responsible for dealing with illegal immigration, crime, political disorder, sovereignty disputes, typhoon relief, SAR and any crime that just happened to have a maritime connection.⁶²

The British model

Most patrol vessels are operated by the Navy, SAR helicopters largely by the Royal Air Force, and other assets by various government departments, civilian contractors and even in the splendid Royal National Lifeboat Institution (a charitable organisation run by part-time volunteers). This federated rather than integrated system looks untidy and should not work, but oddly seems to most of the time. The Royal Navy does have power of arrest, but most law-enforcement tasks are carried out by civilian agencies with the Navy standing by to provide military assistance as necessary.

Australia has tidied this system up and formalised it, with the establishment of its 'Coastwatch' system. Coastwatch is a co-ordinating organisation which has access to a variety of service-providers on the one hand (including the Navy) and customers on the other (Fisheries, Customs, Immigration authorities). Its function is to pair up service-provider and customer when the occasion demands.⁶³

Naval coastguards

Norway and Chile provide a good example of the third model—when the navy runs the coastguard but differentiates it from the rest of the naval service.⁶⁴ In some variants of this, personnel remain attached to the coastguard for most of their careers, in others people are rotated through at various stages. Either way relations are close.

Navies as coastguards

Most navies, ultimately, are coastguards in all but name. Of the 32 navies in Latin America, only those of Argentina, Brazil and Chile really look like conventional navies, with a capacity to operate major units out of area. Indeed, some authorities believe that a preoccupation with good order tasks is what defines a small navy. They are 'primarily designed, planned, prepared, and constructed to protect and enforce the national rights, as conferred by the 1982 United Nations Law of the Sea Convention, within the 200-mile limit of national (economic) waters'.⁶⁵ Malaysia decided not to follow the USCG route, thinking it too costly, and the Navy is tasked with the maintenance of its maritime domain, in striking distinction to its neighbour Singapore, where such activities are specifically left to coastguard and other maritime agencies.

Naval Capabilities and Constraints

In this bewildering patchwork of diverse solutions to common problems,

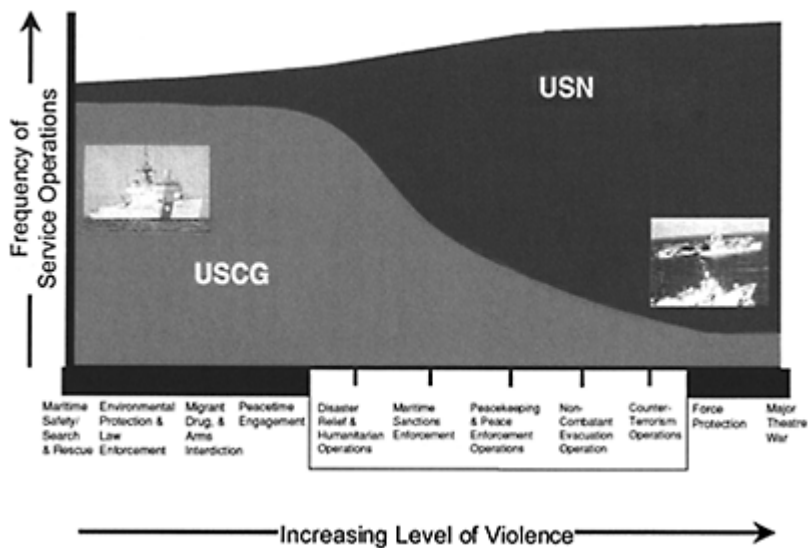


FIGURE 10.7 The US Coastguard and the US Navy

certain naval/military capabilities help make effective ocean management possible even when exerted by 'coastguard' forces.

- Access to graduated force is useful for dealing with pirates, terrorists, aggressive poachers and vessels disputing sovereignty, especially when globalisation is increasing interest in other people's maritime domains. Although there are exceptions (Japan and Hong Kong), navies seem especially appropriate to sovereignty patrol. In

fact, experience suggested that the Japanese Coastguard needed to be beefed up in order to respond effectively to Chinese and North Korean incursions.⁶⁶

- Naval forces are more likely to be able to provide the network-centric approach so useful in co-ordinating responses between different agencies.
- The capacity to operate in rough seas for prolonged periods. Having to deal with the sailing challenges of the southern ocean helps explain, for example, heavy naval involvement in ocean management in Chile, New Zealand and Australia.
- Military organisations tend to pride themselves on their discipline and efficiency, usually with some justification. Expertise in campaign planning makes navies good at threat analysis, strategic thinking and planning. In contrast, the events of 11 September showed that even the USCG had no off-the-shelf contingency plans for port security, and had got rid of more or less all its ‘contingency planning officers’.⁶⁷
- Navies have a public visibility that coastguard forces do not, and may therefore be especially good at selling the sea to governments and publics.

But there are constraints on the use of naval forces, too. Most obviously, many countries have reservations about using the military (even the navy) for constabulary duties, and will insist on high levels of political control and naval subordination to law-enforcement agencies. Equally obviously many of these tasks are quite specialist, and it is asking a lot of sailors trained for high-intensity operations to improvise effective responses to challenges as diverse as disposing of oil slicks or handling attacks by desperate female migrants old enough to be their grandmothers. The Palestine patrol experience shows that navy sailors can be trained for this, of course, but at some cost to their primary missions. Warships are usually more sophisticated, capable and expensive than most low-level tasks require, and so may not offer particularly cost-effective solutions. Above all, the involvement of grey-painted warships is often seen as unhelpfully escalatory.

Satisfying All Levels of the Ocean Management Requirement

The following requirements of effective ocean management seem to emerge from this review of the tasks involved and of what their effective performance usually demands, and incidentally illustrates the advantages of applying military planning techniques to this kind of thing.

- *The strategic level.* Countries need to think through their requirements in ocean management and arrive at a properly balanced policy that is comprehensive—not captured by any particular sectional interest but representing them all with sense and equity. It will identify the end-state and an agenda for consequent implementation. It is likely to require establishing the importance of ‘the sea affair’ relative to other areas of government activity.
- *The operational level.* The importance and comprehensive nature of the task demands effective co-ordination between all customers and service-providers. The ideal should be to provide a level of co-ordination that is so effective that it does not matter who is in charge of it. The most important operational-level requirement is a capacity for sufficient surveillance and awareness across the area. This includes everything from UAVs and maritime patrol aircraft at one end of the spectrum to oceanographic

expertise at the other. The better it is, the more likely is it that ocean management will succeed.

- *The tactical level.* requires specialist skills across this diverse field and, of course, the equipment to go with it. Probably no one but the USCG can aspire to the comparative riches of the 'Deepwater' programme, but it is plainly intended (not least by the manufacturers involved!) to set the gold standard for everyone to aspire to.⁶⁸ It involves a 30-year contract to deliver up to 91 ships, 35 fixed-wing aircraft, 34 helicopters, 76 UAVs, together with an upgrade of 49 existing cutters and 93 helicopters. Additionally it will provide sophisticated systems for communications, surveillance and command and control, so as to be able to 'integrate (the) operations of the new ships and planes, but also improve coordination of all Coast Guard operations, as well as with other federal agencies and the Department of Defense'. Partly reinforced by the events of 11 September and the requirements of homeland defence, the aspirations are clear: 'As the leader in Maritime Homeland Defense, the Coast Guard must have the most capable ships, aircraft, sensors and communications technology available to protect our nation and carry out our many missions. The Deepwater Program will give us the necessary tools to create an effective, layered defense of our nation's maritime interests.'⁶⁹

The ambitious scale of the 30-year Deepwater programme should not obscure the fact that even the USCG has often been critically under-funded in its chequered history, as are some coastguard navies (such as Ireland's). Effective oceans management in the twenty-first century will require this problem to be addressed.⁷⁰

10.12 IMPLICATIONS FOR NAVIES

To the extent that they participate in good-order tasks, all this is likely to affect naval preoccupations, attitudes, training and equipment. Two months in the life of HMS *Sheffield* illustrate the range of the challenges navies face:

- 1998: Deployed to Caribbean to support Britain's overseas territories and engage in counter-drug operations with the Dutch and US Navies and the USCG.
- 22–24 September: Conducted disaster relief in the island of St Kitts after Hurricane George. Repaired St Kitts' hospital and re-opened the airport.
- 25 September–23 October. Counter-drug operations.
- 24 October. Stood by LPG carrier *Arcadia* after an explosion killed three crew, injured four and put engines out of action. Lynx helicopter evacuated the casualties, engineers restarted the engines, and *Arcadia* escorted to port.
- 5–13 November: Disaster relief in Honduras and Nicaragua in the wake of Hurricane Mitch, providing extensive medical aid, fresh water, repair parties and command and control facilities. The Lynx was especially useful for initial reconnaissance, lift of aid stores and access where roads were blocked. On the first day off Honduras, 15 tonnes of drinking water were pumped ashore.

But the real point is that HMS *Sheffield* was not designed with such operations principally in mind. It is a highly capable Type-22 ASW frigate, originally intended for Cold War operations in the North Atlantic.

This and the apparently unlikely 1993 deployment of the 2,400-ton Canadian diesel submarine *Ojibwa* on fishery protection duties emphasise the versatility of the modern warship, but should not conceal the crucial point that low-intensity good-order tasks are often intrinsically different, demanding in terms of skill and equipment and most definitely not a soft option that can be exercised by any decent blue-water navy at a moment's notice. They require skills and equipment that are not necessarily very useful in high-intensity operations.

Conversely, trends in preparation for the latter may be at some tensions with the requirements of good order. The whole approach may be very different. To warfighting sailors, C3 means command, control and communication, but in good-order tasks it more usually implies collaboration, cooperation and co-ordination, for example. Again there are tensions in ship design. Humanitarian operations benefit from the manpower provided by large crews, but the trend in modern warship design is towards greatly reduced crew size. The British Type-23 has a crew of only 180. The American DD-21 was intended to require a crew of 95. This may improve their cost-effectiveness in modern combat, but it would not help in disaster relief.

On the other hand, trends in naval development are narrowing some aspects of the gap between good-order tasks and conventional warfighting ones. The current stress on expeditionary operations in the littoral, for example, is increasing interest in vessels well suited for disaster relief and in techniques such as surveillance in 'broken waters', rather than on the open ocean. This should facilitate operations against drug and people smugglers, help in environmental protection and so on.

There is little doubt, however, that these good-order tasks are rising both in relative importance and in scope and difficulty. Moreover, the many good-order tasks are notably diverse in themselves and have very different requirements for the forces performing them. A ship optimally suited for fishery protection, for example, would not be particularly well suited to disaster relief.

All this raises obvious choices for navies. Should they diversify in order to accommodate all these functions, or should they seek to hive off responsibility for good-order tasks to coastguards, either within or without the naval service? Their responses to such questions will reflect their own assumptions and approaches to future maritime operations. But these assumptions themselves may be affected by the increased attention being paid to general good-order tasks, and it is to this broader question of future priorities and attitudes that we will finally now turn.

Chapter Eleven

Future Seapower

‘Thou knowest that all my fortunes are at sea.’

Shakespeare, *The Merchant of Venice*, I/1

11.1 INTRODUCTION

The way in which the four attributes of the sea and the cooperation-conflict spectrum introduced in Chapter 1 intersect with each other will shape the future of seapower and the consequent role of the world’s navies in the twenty-first century. While there is likely to be a considerable increase in cooperative naval/maritime endeavour both at and from the sea, traditional Mahanian ideas and naval necessities based on national and alliance competition will act as a constant if diminishing constraint.

11.2 THE SEA AS A RESOURCE

The relative importance of the resources of the sea will surely increase in the twenty-first century. The demand for oil, to cite only the most obvious case, is likely to increase by approximately 9 million barrels per day by 2010, equivalent to the daily output of Saudi Arabia. The same increases in demand on other mineral resources of the ocean will increase in like measure as the world’s population, level of industrialisation, living standards and expectations go up. Mankind’s appetite for fish and other living marine resources is likewise expected to grow. The ocean is also likely to be called upon to deliver new benefits as well: tide and wind energy, and very possibly potable water (where there is already a 20 per cent shortage).¹

But, as we saw in Chapter 10, all this is under increasing threat both from the prospect of enhanced competition (for example in the South and East China Seas) and biodegradation resulting from pollution and climate change. These could lead to drastic falls in future economic activity at sea, and therefore ashore, at just the time when an increased population and environmental challenges require more resources. While many would conclude from this that mankind is facing the prospect of increased conflict over resources,² it is also possible to draw the opposite conclusion—namely that the collapse of the fishery on Newfoundland’s Grand Banks shows that unbridled competition for oil or fish, or for any other of the many resources of the sea, is likely to be increasingly recognised as a disaster for everyone.

Such threats to mankind's prospects of continued enjoyment of the resources of the sea will probably grow none the less, and be of increasing concern for navies and coastguard forces.

11.3 THE SEA AS A MEDIUM FOR TRANSPORTATION AND EXCHANGE

The sea's historic role as a medium for transportation and exchange has been affected by the fact that now the financial transactions that dominate the world economy flow through the electronic networks of cyberspace. The recent Asian currency crisis shows that it is shocks in this system that threaten prosperity—but these are shocks that navies can do precious little about. The relative decline in the strategic importance of Mahan's ocean commons would seem at first glance to be further illustrated by the gap that has now opened up between naval and merchant power so lamented by traditionalists. Today's naval powers, it is claimed, are now not truly maritime. Their merchant fleets have declined to vanishing point, and the direct protection of merchant shipping has dropped away in their operational priorities such that it hardly appears in doctrinal formulations at all.

Even so, sea-based trade is still fundamental to the world's prosperity and stability, because,

- Financial transactions are ultimately based on the exchange of goods. Increases or reductions in the latter (through variations in consumer demand, for example) have enormous impact on financial stability. The rise in the electronic transfer of capital, in other words, ultimately depends on, and is not an alternative to, merchant shipping. Indeed, when the two get seriously out of balance, problems arise.
- Measured in weight and volume, 90 per cent of world trade still travels by water. Global trade is set to increase. Estimates vary, but sea-based trade is likely to expand by several per cent per year for the foreseeable future.³
- Sea transportation costs have been drastically reduced over the past decade or so, but at the price of a tight 'just-enough-just-in-time' philosophy that makes it disproportionately vulnerable to local shocks.

Even in the age of cyberspace, sea-based trade therefore continues to be fundamental to peace and prosperity around the world.

11.4 THE SEA AS A MEDIUM OF INFORMATION AND THE SPREAD OF IDEAS

The first Irish missionaries struggling across the North Sea in their coracles had global aspirations. They were intent on spreading their ideas and values to everyone, not merely to the favoured few. An equivalent these days are the shared liberal trading values commonly associated with the notion of 'globalisation'. These values reflect the need for the free exchange of information and for the absence of arbitrary interference in the processes of trade.

Nowadays, cyberspace has largely taken over the function of transmitting information and values, and this is transforming the world, shrinking it and threatening to reduce its social diversity. From this point of view seapower has apparently lost most of the direct 'transformational' capacity it used to have—although definite echoes of this survive in the concerns that many governments have over the nature of some of the cargoes merchant ships carry (drugs, illegal immigrants, subversive materials, pirate radio stations, abortion clinics) for their possible impact on the fabric and values of their own societies. Moreover, the sea exerts a tremendous *indirect* influence on the world's values and ideas because it sustains the globalisation process itself that may well transform them.

11.5 THE RESULT: A GLOBAL MARITIME SYSTEM

Working together, these three attributes of the sea can be seen as contributing to the further development of a global maritime system. One thing that is often overlooked about the sea, however, is that it is all joined up. It is, in reality, one single world ocean. The various ways in which mankind uses it, moreover, interact and affect each other. Fishing, oil, trading, environmental and leisure uses can conflict and compete.

Furthermore, the combination of cyberspace and sea-based trade has further globalised the world's trade so that it now needs to be looked at as a multilateral system, not just a web of bilateral trading arrangements.

The security implications of this are enormous. To the extent that they accept the phenomenon of globalisation, nations and peoples have an increasingly common interest in defending a global trade and value system that benefits everyone. As a result, we might expect to see navies cooperating together in the common defence of common interests.

This cooperative approach has been eloquently described in a recent statement on the defence policy of the maritime, island, trading state of Singapore:

The Asian economic crisis has demonstrated how closely intertwined the interests of nations have become in a borderless world. A small and open country like Singapore is especially susceptible to unpredictable shifts in the international environment. This vulnerability will increase as we become more integrated with the global economy. What happens in another part of the world can have immediate and great spill-over effects on our economy and security. But we cannot turn back from globalisation. We depend on the world economy for a living. We will have to work more actively with others to safeguard peace and stability in the region and beyond, to promote a peaceful environment conducive to socio-economic development...⁴

Economic interdependence, moreover, means that political, social or economic disturbances in one part of the system will adversely affect the rest of it. This provides incentives to respond to events elsewhere, for fear of what might happen otherwise.

This way of looking at the sea-based trading system is not of course entirely new, however. Mahan himself was aware of it:

This, with the vast increase in rapidity of communication, has multiplied and strengthened the bonds knitting the interests of nations to one another, till the whole now forms an articulated system not only of prodigious size and activity, but of excessive sensitiveness, unequalled in former ages.⁵

The sensitiveness (or vulnerability) and importance of the maritime system explains why navies have always had to guard it. Historically, this was largely done through the maintenance of sea control and the defence of shipping. Nowadays, navies need to respond to a much wider range of responsibilities in dealing with threats to the system.

11.6 A SYSTEM UNDER THREAT

There can be little doubt that this global maritime system *is* now under threat, for three connected but different sets of reasons. First, some oppose maritime globalisation as a matter of principle, perhaps seeing it as undermining more traditional but still cherished national, social or religious values. The attack on the World Trade Center towers indicates the possible depth of their hostility to the system and also demonstrates the decline, even the death, of strategic distance—no longer can the developed world keep other peoples' resentments at arm's length.

Second, there are those who see globalisation simply as something to exploit. Transnational crime organisations come into this category. And so does the modern warlord, for whom war and conflict are not means to ends but ends in themselves. To judge by African experience, these practitioners of post-Clausewitzian conflict might make use of ethnic dissatisfactions, but their real aim is the chaos from which they draw their power and profit.

Third, there remain many, perhaps even a great majority, who continue to adhere to the nation-state as the basic unit of concern. Navies can still therefore be seen as agents for the defence of national rather than transnational values against all manner of threat, direct and indirect.

The consequential prospect of continued national competition brings us back to the fourth of the historic attributes of the sea—as a means of dominion. This has been the traditional focus of naval activity and has often taken countries up towards the bleaker more conflictual end of the cooperation-competition maritime spectrum.

11.7 THE SEA, DOMINION AND SOVEREIGNTY

The continued survival of national or sectional interests is often associated with old-fashioned mercantilist images of trade, in which competition rather than cooperation is emphasised, and which are consequently different, in tone and expectation, from the arguments advanced by the proponents of globalisation. Indeed from this perspective, globalisation is seen less as something that is in the interest of all, more as something to exploit in the national or company interest.

The Asia-Pacific provides plenty of evidence of all this. The three-cornered relationship between China, Japan and South Korea is heavily influenced by trading

rivalries. China's entry into the World Trade Organisation (WTO) provides both a gigantic market and a ferocious low-cost competitor. Malaysia's establishment of the container port of Pelars Tanjong in Jahore which threatens drastically to undercut Singapore's more expensive facilities is a more localised example of the economics of competition. The survival of such ancient attitudes suggests a need for caution about the extent to which the world has changed through free trade and globalisation:

There is a fashionable view that geography and geopolitics are no longer relevant in the post-Cold war era. That is demonstrably untrue in Asia, where there is a fierce sense of national sovereignty, enormous variations in culture and civilisation, and a struggle for power and influence among the region's great powers.⁶

All this raises echoes of a more pessimistic view of human possibilities than was held by nineteenth-century free-traders. It leads to the conclusion that proclivities towards intense competition will endure, despite economic convergence between different countries through globalisation, and that international peace remains fragile.⁷ The survival of the assertive nation-state as a unit of concern may combine with sometimes ferocious levels of economic competition to produce an environment in which the sea continues to be seen as a medium for dominion in ways that are all too familiar from previous eras. In consequence, navies in such circumstances can be expected to have much the same set of operational preoccupations as their predecessors.

Many of these old-fashioned rivalries in the Asia-Pacific have found naval and maritime expression. As the new millennium dawned, we saw Japanese maritime forces in action against North Korean spy-ships, several naval battles in the Yellow Sea between the navies of the two Koreas, the beaching of a hostile submarine in South Korea, a major maritime standoff in the Taiwan Strait with two US Navy carrier battle groups ostentatiously sailing through the area, an aerial collision between US and Chinese aircraft and continuing assertive naval activity in the South China Sea. Even low-level fishery disputes from the Sea of Okhotsk down to the Gulf of Thailand are conducted, as we saw in the previous chapter, with a level of ferocity rare elsewhere.

In this atmosphere, it is hardly surprising that in their procurement decisions few local countries register significant departures from the traditional concerns of navies over the years. Most navies in the region remain fixated on the defence of their own chunks of maritime real estate, and often their planning focus is on each other. In practice, their main preoccupation is on the national interest, the defence of maritime sovereignty, and the control of access to marine resources. Hence many of the navies of the region appear to be giving increased attention and resources to the requirements of sea control, that form of maritime power most focused on the idea of peer competition, rather than cooperation.

As a result of all this there are in the Asia-Pacific and the rest of the world a range of threats to the maritime system, both ashore and at sea, including:

- *Conflict between sea users* This may take the form of acute international rivalry for sea resources in particular areas like the South China Sea. It may be more a question of the competing interests of fishermen, oilmen – and possibly navies.

- *Maritime crime*, such as piracy, drug-smuggling, terrorism, and the trade in illegal immigrants.
- *Resource degradation* through pollution or over-exploitation.
- *Inadvertent or deliberate involvement in other people's quarrels* The so-called 'tanker war' of the 1980s that developed out of the conflict between Iraq and Iran is the obvious example of this.
- *Deliberate action by hostile countries* against each other or against the system may seem old-fashioned and increasingly improbable, but most diplomats assume it could still happen.

Many of the sources of these threats to the maritime system are actually to be found ashore. For example, the much-lamented rise in piracy and sea robbery in Indonesian waters should be seen as a consequence of the political and economic problems faced by that country ashore. The tanker war and land-source pollution of the sort we have in the North and Baltic Seas show other ways in which troubles ashore can spread to the sea.

Such threats will need to be contained by a combination of national measures to maintain good order at sea and, in cases where that does not solve the problem, national or combined international action at, or from, the sea.

11.8 DEFENDING THE MARITIME SYSTEM

Three points immediately emerge from this review of continuing, or emerging, threats to the maritime system, which help determine appropriate responses.

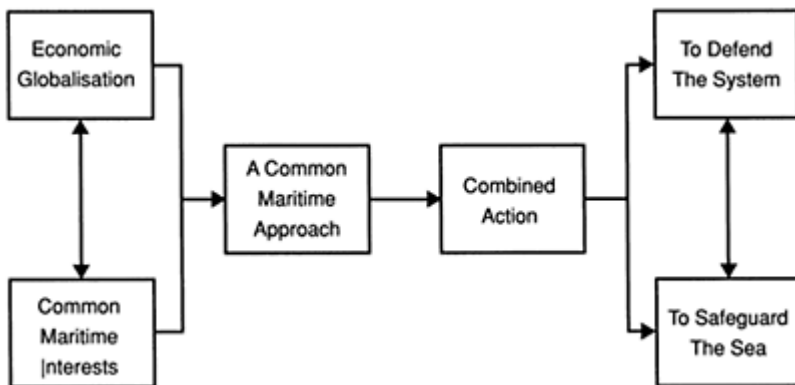


FIGURE 11.1 Defending the System

First, since only dealing with disorder at sea usually means focusing merely on the symptoms not the causes of the problem, the maritime resource and trading system may depend much more on *indirect* defence (through intervention ashore against forces or developments threatening it) than on the *direct* defence of its component merchant ships or fishing boats. It will be more a question of defending the system, than the shipping that expresses it. Both have long been elements of the protective functions of seapower but

modern conditions may indeed involve a relative switch in emphasis from the second to the first.

Second, it is a *global* problem, usually requiring a collective global response. Manifestly, no single country, however powerful it may be, can resolve these problems on its own. When dealing, for example, with environmental pollution, a *regional* approach to ocean problems makes sense in those circumstances where UN or global solutions seem at the moment impractical. Certainly, national responses to the challenges of ocean management will be partial—at best. Increasingly transnational, global challenges to that good order on which prosperity and stability depend require transnational global responses.⁸

Third, appropriate responses seem likely to involve navies and other maritime security forces in activities that are not exclusively or even mainly military. Maritime security is now broadening to take in other, ‘softer’ areas of concern such as piracy and environmental pollution. Navies will need to deal with this in two areas, the defence of good order *at* sea, and the defence of good order *from* the sea.

The Future Defence of Good Order at Sea

Safeguarding the sea or keeping it safe from misuse of all sorts is a development of the requirement to defend good order at sea, discussed at length in Chapter 10, and so only needs to be touched on here. But it bears repeating that, at sea, everything seems to be connected to everything else. The Greenpeace boat bearing down on a warship for environmental reasons might well find itself treated as a terrorist threat. In many parts of the world there is an intimate connection between piracy and fishing; out-of-work fishermen turn to piracy, but pirates attack fishermen. Dealing with either has implications for, and is sometimes limited by, sovereignty concerns and environmental pollution. Moreover, what happens in one part of the world ocean will usually affect many others, often considerably.

Accordingly, ocean management and the defence of good order at sea needs to be treated as a whole. It will usually require,

- *A multi-agency approach at the national level.* Japanese experience in March 1999 illustrates the point, when two North Korean spy-ships intruded into Japanese waters. They were intercepted by ships of the Japanese Maritime Safety Agency, but these had no authority to fire and had very limited capacity to stop, board and inspect suspicious vessels. The Japanese Maritime Self Defence Force (their navy by any other name) had no jurisdiction and so stood by helplessly as the spy-ships departed. This humiliation pointed out the need for a properly ‘joined-up’ approach at the national level, too, and new regulations were passed by the Japanese parliament to provide it.⁹
- *Integrated regional approaches.* Most problems in maritime good order cannot be sorted out merely at the national level, especially when they are strongly linked to what happens on land. Senegal, for instance, is saddled with a level of debt that obliges the government to sell fishing licences to predatory European fishing concerns that Hoover the seas empty, ruining the livelihoods of local fishermen, and so running Senegal into further economic difficulties. For all these reasons, a *regional* and holistic approach to ocean problems makes sense in those circumstances where UN or global solutions seem at the moment impractical.¹⁰

- *Navies acting in a constabulary manner.* Many navies will become more involved in 'soft' maritime security in which they find it necessary to cooperate more with each other and with other agencies (scientific bodies, customs, commercial interests, conservation groups, and so on) in the defence of good order at sea and common maritime interests. Both nationally and regionally, the expanding range of maritime tasks will force navies either to diversify or to allow coastguards and other maritime forces to exercise 'good order' functions. For some perhaps the two circles in Figure 10.5 will be pulled apart by mutual specialisation; for others they will increasingly overlap. Some navies may even come to regard themselves as rainbow warriors.¹¹

In many ways, there would be nothing new about such a breadth of naval interest. As one nineteenth-century British Admiral remarked:

I don't think we ever thought very much about War with a big W. We looked on the Navy more as a world Police force than a warlike institution. We considered that our job was to safeguard law and order throughout the world—safeguard civilisation, put out fires on shore, and act as a guide philosopher and friend to the merchant ships of all nations.¹²

The immediate future seems likely to see many of the world's navies reverting to the wide-ranging norms of the nineteenth century after the narrowly strategic preoccupations of much of the twentieth. As we shall see, this is likely to have some quite significant consequences for their composition and future development.

The Defence of Good Order From the Sea

In November 2001, the US Navy's helicopter carrier USS *Peleliu*, with 2,100 Marines on board, and two other warships took up station off Qatar to help guard a meeting of the World Trade Organisation taking place in Doha.¹³ This neatly shows both how navies may be mobilised in defence of a globalised trading system and that their capacity to project power ashore is what really matters.

The example also demonstrates that the other main set of tasks now confronting the world's navies has less to do with traditional peer competition and conflict and more with crises, conflicts and wars, often against non-state actors, in distant places. These post-modern operations are likely to be expeditionary in nature, intended to stabilise areas of concern with the minimum of collateral damage, cost and long-term commitment and, doubtless, conducted in the full glare of global publicity. Navies will be involved to the extent that such land-centred operations require passage across, and support from, the sea.

Operations in 2001–02 against the Taliban and the al-Qaeda network, provide a classic example of the *indirect* defence of a globalised trading system by means of cooperative maritime endeavour. The very target the terrorists chose, the World Trade Center towers, perfectly illustrated their hostility towards the impact and the values of a globalising world. Some 3,000 people from over 80 countries were murdered in the original attack. Related attacks were planned or executed on land and sea targets across the world, then and since.

The response was as global as the threat. A total of 68 countries provided a range of support for the 'war on terror' that included intelligence, base and financial support as well as active maritime operations mainly in the Arabian Sea, the Gulf of Oman, the Straits of Malacca and South-East Asian waters, the Red Sea and the Mediterranean. At any one time, an international armada from the navies of up to a dozen countries undertook sustained operations involving unusually long periods at sea.¹⁴ These maritime operations included:

- *Intelligence, surveillance and reconnaissance*: Sea-based picture-building was important throughout the area, including the Gulf and off the Horn of Africa.
- *General support and force protection*: Japanese and other ships acted as plane guards for US carriers, and dozens of frigates and destroyers were available for routine ASW, AAW and ASuW duties. Although there was no serious high-seas threat, the coalition aimed to keep it that way.¹⁵
- *Logistics support*: American and other combatants were supplied at sea, by an international collection of fleet auxiliaries. Many countries in the region helped by making base facilities available.
- *Escort*: Key combatants and merchant ships were escorted as necessary. The Japanese Navy, for instance, escorted American warships *en route* to the theatre from Japan. Indian warships escorted merchant ships through the Straits of Malacca. The necessity for this was demonstrated by the fate of the USS *Cole*, the arrest in Morocco of terrorists suspected of planning to attack warships passing through the Straits of Gibraltar in May 2002 and the attack on the French supertanker *Limburg* in October 2002.¹⁶
- *Maritime interception operations*: Canadian, Australian and Spanish warships were amongst those tasked with intercepting possible terrorists fleeing the area by sea, and terrorist-related contraband ranging from drugs to arms.
- *Substitution*: Allies of the United States took over its duties elsewhere, releasing US Navy combatants for operations in the Arabian Sea. In January 2002, for instance, Australia assumed command of the multinational naval blockade of Iraq in the Gulf, releasing US naval forces for action to the east.¹⁷

The culmination of all this maritime effort was the Coalition's capacity to project maritime power far ashore, most obviously against the Taliban regime in Afghanistan. From 7 October 2001, less than a month after the terrorist attacks on New York and Washington, American and British forces fired Tomahawk cruise missiles against key targets in Afghanistan, and US Navy carriers mounted air-strikes against targets either independently or in support of landed forces. These were claimed to be much more precisely targeted than was possible a decade before in Desert Storm.¹⁸ On 26 November 2001, the USS *Peleliu* flew its US Marines 400 miles inland into Bibi Tera airfield south of Kandahar. This was the longest-range deployment in USMC history and dramatically illustrated what STOM could mean. This activity was supported by carriers and air-capable amphibious warships from Britain, France, Italy and Australia.

As though to make the basic point clear, 2 November 2002 was selected as World Maritime Day. Its theme was shipping safety. The President and Prime Minister of Bangladesh were amongst the many world leaders to emphasise the importance of keeping the seaways and the world's ports free from terrorism and other crimes.¹⁹ The

war on terror showed that this required action both afloat and ashore by a maritime coalition of the able and willing. It may well prove a common characteristic of the twenty-first century.

11.9 A MARITIME CONSORTIUM AS THE BASIS FOR ACTION

Cooperative defensive action of this sort is new neither in concept nor in practice. As an international relations theorist, Mahan was dubious about the capacity of most states to cooperate peacefully with each other, but none the less concluded that a transnational maritime consortium ('a community of commercial interests and righteous ideals'),²⁰ in this case comprising Britain and the United States, would be needed to defend the security of a large and expanding system of international trade. Neither country, he thought, had the resources to perform the task on their own (the perils of representative democracy!) but together they could do the job.

More countries now seem prepared to join in. Because, by definition, particularly maritime countries are the most vulnerable to disruptions to the system, they will tend to be at the forefront of global consortia attempting to supply security to the regions that need it. But if maritime cooperation of this sort is to be a recurrent pattern in the twenty-first century, how is it likely to develop and proceed?

Maritime Cooperation: Locating the Leader

Some analysts think an appropriate analogy for such cooperative action at sea would be the Wild West sheriff calling out the local posse to deal with outlaws. Reluctant or not,²¹ the United States is the most likely sheriff for the time being, and its Navy may often prove to be a particularly useful instrument for the defence of the system. In some cases, however, other sheriffs have appeared: Britain for Sierra Leone (1997), Australia for East Timor (1999). Given the declining size of the US Navy and a domestic determination to maintain choice as to whether it should assume responsibility for enforcing the law (the characteristic that distinguishes the sheriff from the policeman), this may be just as well.

In the United States itself, a less homely analogy portrays naval power as a denationalised, common and public good—in the internet phrase, a kind of 'systems administrator' for the world trading system. Its function is to defend the system against maritime crime, local disorders and wars, as threats to the common maritime interest of all.²²

Both analogies have something to offer. 'Systems administrators' are a de-personalised part of the system, act automatically and do not require the approval or support of the rest of the system. Naval power, if entirely unassociated with any particular country, could indeed defend the system in just this neutral, dispassionate manner. This vision of denationalised naval power as a force for good lay behind the idea, explored at the time of the establishment of the United Nations, of forming permanent standing UN naval forces. In the Cold War era, this was wildly impractical but there has since been renewed interest in the idea.²³ Most people still think this is not feasible, though, and that the UN should, at least for the time being, focus instead on the

less radical aspiration of indirectly helping create the conditions in which maritime cooperation can take place.

The UN could encourage a sense of maritime community through, for example, facilitating global legal agreement through UNCLOS, developing the International Maritime Organisation, maybe even setting up a UN Maritime Agency and so on.²⁴ More obviously, the UN has in the past provided legal and moral cover for collective maritime action by coalitions of the able and willing under the direction of an agreed coalition-leader -and this function will also probably continue.

This takes us back to the first analogy, the sheriff as coalition-leader. Sheriffs actively defend the common law, ultimately depend on the active support of other citizens, and indeed are usually elected by them. Moreover, members of the posse join in partly because they themselves want to influence the course of events, not least by helping determine the sheriff's intentions. If, on the other hand, they thought the sheriff could, and preferred to, do it on his own there would be much less incentive for them to join in, and much more incentive to grumble at a distance about undesired consequences. The NATO concept of a 'framework nation' is a variant of the same idea. This is a country which its allies agree should set the agenda and then be responsible for driving the process forward by securing political agreement as to the threat, and what should be done about it.

Certainly, the experience of previous maritime consortia in dealing with such threats to international stability as those represented by the Iraqi invasion of Kuwait and by developments in the former Yugoslavia, dramatically demonstrated the need for a coalition-leader. Locating the leader, and identifying the terms of coalition leadership is, of course, an intensely political process, but one that is to an important degree often both conducted and influenced by naval activity.

Maritime Cooperation: Agreeing the Mission

It will only be possible to locate the leader and to engage in effective maritime cooperation if there is general agreement on the political aims of the exercise; differences of opinion at the level of grand strategy will tend to filter down, finding expression in such things as different rules of engagement which complicate and confuse coalition operations and tactics. As we saw in Section 8.3 and 8.6, coalition interoperability problems are often essentially political in origin, but, with experience, confidence and trust, some diversity of view can usually be accommodated.

NATO tends to set the standard for multinational naval cooperation of this sort, profiting from many years of combined action against a common perceived threat with the United States being generally accepted leader and framework nation. The result is a set of concepts of how such coalitions can be engineered through the construction of Combined Joint Task Forces designed to deliver the levels of graduated force the particular crisis may demand.

Regions with higher levels of mutual suspicion and potential conflict and much less experience in working together in this way, such as the Indian Ocean or the Asia-Pacific, find it more difficult to achieve this level of cooperation—although there is plenty of evidence of progress in this direction.

In the Asia-Pacific, for example, there is increasing recognition of a number of common maritime and economic interests that derive from a common dependence on good order at sea, clear sea lines of communication, and on secure access to the oil of the Gulf. Unsurprisingly, therefore, local navies are cooperating in the defence of common trading values and a jointly beneficial globalised trading system. There has been a perceptible growth of interest in the American idea, enunciated by Admiral Dennis Blair, CINCPAC, of developing 'security communities' and an increasing stress on multilateral naval operations of one sort or another.²⁵ At the moment, most of these focus on dealing with such low-level threats to the trading system as piracy, pollution, gun-running, drug-trafficking, over-fishing, problems in marine safety, and so forth.

Obvious common interest in this type of low-intensity soft security makes maritime cooperation easier to achieve, but this is more difficult when the proposed action is at higher levels of intensity. While maritime cooperation in defence of the system makes eminent economic and strategic sense in the Asia-Pacific, it is none the less limited by a continuing preoccupation with peer competition at sea (especially in hot-spots like Korea, the Taiwan Straits and the South China Sea). It is most obviously manifested by the absence of agreement as to who the maritime sheriff should be, or indeed, whether a posse needs be collected in the first place. The same tensions between maritime cooperation on the one hand and conflict on the other can be seen in the Mediterranean, the Gulf and the Indian Ocean areas. Nor is it entirely lacking in the NATO area.

Maritime Cooperation: Working Out the Operational and Tactical Procedures

Maritime cooperation of this sort also requires a high level of familiarity with the procedures of other participants. Based on long experience, NATO's unclassified procedures (known as Exercise Tactics—Extacs) are a considerable help here. The relationship between the intensity of the activity and difficulty in achieving high levels of cooperation that was noted in the last section may apply at the operational and tactical levels too. It may be easier to interoperate in force protection and logistics through the provision of escorts and supply ships than it is in sea-based strike operations, for example.²⁶

But while coalition interoperability may be essentially a political issue, there is also a real technological dimension to it as well. These days the technological capacity to operate in coalition seems often to boil down to the extent to which potential participants in the posse have actually, rather than rhetorically, embraced the IT revolution and the concept of network-enabled operations at sea. Political and technological divergencies may sometimes combine to make it difficult for maritime consortia to work together effectively.

The sheriff may regret including some members of the posse, if they cannot keep up with him, or are inclined to quibble at the course of action he suggests, or both. Allies are useful politically but sometimes the operational price of having them along may seem too high for the technologically more advanced. Having to secure the agreement of 19 allies on the targets set for NATO's air campaign during the Kosovo operation, for example, was especially annoying for the Americans in that the European allies were actually able to contribute so little to it. IT now provides sensor-to-shooter time gaps of ten minutes or

so, and the United States' allies will have to be extremely sharp to keep up with them, and the evidence suggests that they will need to be, if they are to exert any real influence on US decision-making.²⁷ Even with the putative availability of remarkably cheap 'adaptive link establishment' or 'gateway technologies' of one sort or another, this will remain a considerable challenge for many navies.

In short, the navies of countries that want to participate in maritime consortia, need to practise and to acquire the technology, operational and logistic procedures and doctrinal approaches that are needed for effective interoperability. They need to aim high because the standards required often seem to turn out to be more demanding than expected. Difficult though this might be, there is the consolation that coalitional activity can at least help provide a partial solution to a universal problem that faces navies everywhere—the growing gap between what has to be done and the resources and assets that they have to do it with. Against such a background there is much to be said for pooling resources and seeking to solve common problems in the company of others. This spreads the risks and costs, while increasing, and demonstrating, the legitimacy of the operation. It also provides a means by which smaller navies can exert more influence than they could on their own.

Maritime Cooperation: Developing a Strategy

The more coalitional defence of common maritime interests comes to dominate their future agenda, the more navies will need to develop a strategy for advancing political and technological interoperability with prospective partners.

In 2000, for instance, Singapore participated in 70 exercises with its military partners, hosted multilateral exercises in diving and mine counter-measures with other members of the Western Pacific Naval Symposium, and a submarine rescue exercise with the Japanese, South Korean and Japanese Navies. 'Such exercises enhance friendship and understanding, and also allow the RSN to benchmark itself against some of the most advanced navies of the world.'²⁸

The common thread linking many of these activities, significantly, is the defence of the shipping on which the whole of Singapore's security rests, as David Lim, their Minister of State for Defence recently remarked:

The Malacca Straits, Singapore Straits and the South China Sea together form one of the busiest shipping lanes in the world. According to the UN, more than half of the world's shipping tonnage transit through these sea lanes each year, and this will continue to grow by 5% annually over the next ten years. Clearly, the safe and secure maritime navigation of the sea lines of communication...is vital to the continued economic development and prosperity of the region and the world.²⁹

Coalition-building of this sort is designed to improve levels of political and technological interoperability. Making such cooperation possible has become the main justification for the kind of coalition-building naval diplomacy described in Section 9.7, since it is a major means by which such essential arrangements are made. All around the world, naval

cooperation, in increasingly ambitious ways, has become a developing international trend.

But there is more to developing a strategy for coalition-building even than this. Existing procurement practices may need to be re-appraised. At the moment, in many countries, the acquisition of major platforms, weapons and sensors does not seem to be related to any particular strategic vision, other than maintaining a strong presence in their own waters. All too often naval policy and procurement are clouded in ambiguity. This lack of transparency encourages corruption at home and suspicion abroad. It certainly makes interoperability more difficult.

This kind of transformation may require some redefinition of the way in which navies think of themselves. Military forces have hitherto been regarded as the supreme symbols of the sovereign state, but their likely future tasks in a globalised world may also require a decline in their sense of 'nationality'.

Take, for example, the traditional task of the defence of shipping. It is now rather difficult to conceive of navies operating in the traditional way in the defence of merchant shipping, even supposing there was a significant threat to it. The globalisation of the sea trading system means that when a ship is attacked it is often hard to tell who is being hurt, apart from the immediate victims. In such a world, it may seem curiously anachronistic to expect nation-based entities like navies to be tasked with the protection of other people's property, especially in conditions when it is not particularly easy to discover who those other people are. The old simple Mahanian association of navies with the defence of *national* economic interests in fact hardly makes sense in the era of globalisation.

This is especially likely to be true in the area of soft maritime security. Certainly, as we saw in Section 10.10, purely national responses to the challenges of ocean management will at best be partial. The national identity of warships, indeed, can sometimes impede the exercise of such roles as the suppression of piracy.³⁰ Transnational challenges like this may therefore require transnational responses in which navies need to operate not just with each other but with other maritime agencies as well. Here as elsewhere, the effectiveness of maritime cooperation will depend on navies investing thought and resources in it.

Maritime Cooperation: Keeping a Sense of Realism

On the other hand, it has been well said that 'historically, maritime forces have tended to be associated with state power, competitive security concepts and the pursuit of national interests'.³¹ The more this ancient aspect of mankind's relationship with the sea continues to prevail, the more we must expect the association of navies with conflict and national identity to continue. Indeed, representing the nation is often a principal justification for having a navy in the first place. The fourth of the nine functions of Chile's Navy, for example, is 'to safeguard, strengthen and renew our historical and cultural identity'. Naval heroes like Arturo Prat, or, for Peru, Miguel Grau, contribute towards a country's sense of itself.³² Writers from Western countries with long-established identities often overlook this point.

As a result, although they may act in coalition from time to time, navies will remain focused on *national* and traditional roles in defence of national or, at most, collective and

regional interests—sea control and denial, the attack and defence of shipping, the projection of power ashore, the maintenance of defences against it and supervision of their own maritime domains. Indeed, the current preoccupations with homeland defence suggest an intensification of such traditional concerns. In many cases, such concerns will be real, because the strategic preoccupations of the countries they defend are still of the traditional sort—the maintenance of sovereign national interests against peer competitors or insurrectionary groups.

Moreover, most naval professionals emphasise that proficiency in their core business, the conduct of high-intensity operations at and from the sea, provides the best possible basis for the newer, softer security tasks that also seem to be emerging. Western sensitivity to loss of life reinforces this natural tendency to err on the side of safety in the preparation for, and planning of, tasks even of quite modest levels of military intensity.

For all these reasons navies will still tend to think of themselves as essentially national forces. They will nearly all try to make themselves as ‘balanced’ in capability as their resources allow and take the requirements of independent action as seriously as they think they can.

11.10 THE FUTURE OF SEAPOWER

Finally, how is all of this likely to affect the future role of navies, and the place of seapower in the twenty-first century? Some conclusions of a sort do seem to emerge from all this with reasonable clarity. They include the following set of observations about what navies are likely to be doing, and indeed where they will be doing it.

The Relative Importance of the Sea and Seapower Will Tend to Rise in the Twenty-First Century

The historic importance of sea seems more likely to rise than to decline in the immediate future. The value of its resources will grow as the world population increases and, as a means of transportation, the sea will remain central to the world trading system on which everything depends. As a physical and human environment, too, the sea will help shape the world’s future.

Inevitably, the role and importance of naval and other maritime forces will reflect all this. Whether their function is to help police and defend a globalised world or to deal with narrower, more traditional national concerns in more restricted waters, navies will have increasingly vital tasks to perform.

This explains why navies seem busier than ever as we move into a new century:

Our naval forces, in the post-Cold War era are now almost three-times busier than they ever were prior to 1990. I am referring to actual calls to action, from peace-keeping to crisis response to humanitarian efforts...Our naval forces are, more than ever, the right tools for the job [of dealing with the instabilities of the Post-Cold War world]³³

It will have been noted from this book that sailors are prone to consider themselves as intimately involved in, and responsible for, the grand sweep of human destiny. Either they are persistent victims of *folie de grandeur*, or their claims are true. While this book inclines to the latter conclusion, it should all the same be pointed out that the new wars and disorders of the twenty-first century are actually taking place on land. Moreover, disorder at sea is often attributable to events ashore. This is the opposite of Mahan's central argument and suggests that sailors should maintain a precautionary note of becoming modesty in their claims for what they can achieve on their own.

Attitudes to the Sea Will Change

Attitudes towards the sea and its future importance are likely to change in the long run. Navies, too, are likely to need to rethink their attitudes not just to themselves and what they do but to the sea itself. Their traditional attitude has two components:

- *The notion of the high seas*: these are owned by no one and are free for all to use without impediment.
- *The notion of the territorial sea* owned by a particular country and so available for its exclusive benefit.

The notion of the 'high seas' reflects the views of the Dutch jurist Hugo Grotius in his *Mare Liberum* of 1609, although he was by no means the first to express them.³⁴ Because the sea is seen, first, as a limitless resource, and, second, as an essential means of transportation for the purposes of the trade on which the world's prosperity and peace depends, the ability to use the high seas freely has for centuries been regarded as an essential right.

The result has been a great emphasis, particularly amongst the more maritime powers, on 'free navigation' and a sometimes almost metaphysical insistence on the freedom of the seas. In Admiral Jacky Fisher's words:

The Admiralty should *never* engage itself to lock up a single vessel even—not even a torpedo-boat or submarine—anywhere *on any consideration whatever*. *The whole principle of sea fighting is to be free to go anywhere with every d—d thing the Navy possesses*. The Admiralty should...reserve entire freedom of action.³⁵

Obviously, this notion is qualified by the fact that particular areas of the sea *are*, on the contrary, owned by particular countries and available for their exclusive use. This is the alternative but complementary proposition of the 'closed sea' as developed by John Selden, the brilliant British jurist, back in the seventeenth century. Selden challenged Grotius's arguments in principle and pointed out that his later attempt to justify the closing of the East Indies spice trade to all but Dutch merchant ships was hardly consistent with the views on free navigation he had espoused a few years earlier.

Selden's view was that bits of sea *were* worth owning and therefore were capable of being owned, perhaps because of the fish stocks that could be found there, or because they allowed the exertion of decisive power ashore or because control of the transportation routes that passed through them was commercially or strategically

valuable. Under UNCLOS, this approach resulted in the extension of the territorial sea and the assertion of ownership of marine resources within and in some cases without the EEZ. The result is that the high seas have shrunk to only about 64 per cent of the world's total sea area.³⁶

This enclosure of the high seas is associated with traditional ideas about what 'sovereignty' means:

To be sovereign at sea, the United States must control what takes place in the waters under its jurisdiction and exercise influence in the waters that it deems of high interest.³⁷

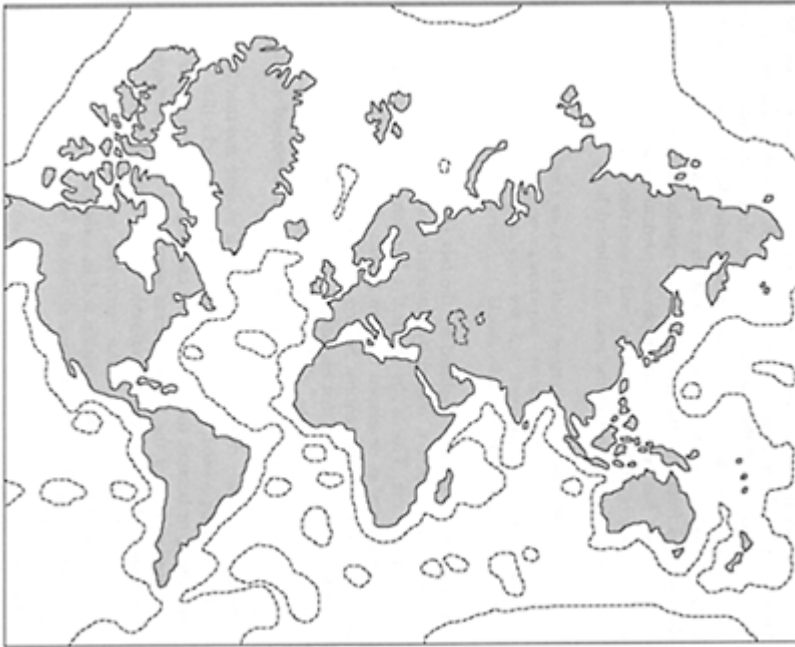


FIGURE 11.2 The Decline of the High Seas

As we saw in Section 10.5, maritime sovereignty can be both instrumental and expressive.

Selden's case rested on the idea that countries would control their parts of the sea in proportion to their military/naval strength. In wartime, the capacity to make use of all the sea (within and without the territorial sea) was always conditioned by military strength, and indeed, as we have seen, securing and exploiting that capacity was the main focus of maritime strategy. Nowadays, however, maritime geography rather than military power is seen as the main criterion for deciding who owns what bit of sea.

Traditional attitudes to the sea have therefore been determined by the balance struck between the Grotius and Selden approaches to maritime sovereignty. As a result the rights both of free navigation on the high seas and of exclusive ownership of the territorial sea have in fact always been subject to a degree of constraint. Free navigation could be limited in certain sea areas and in times of war; maritime sovereignty, on the other hand, was determined by a country's ability to enforce it.

These constraints seem likely to grow quite considerably in the twenty-first century, because of the way in which attitudes towards the ancient attributes of the sea are themselves shifting, particularly as a source of resources and as a means of transportation.

Increasing concern for diminishing sea resources

The Sealing Convention Treaty of 1911 between Russia, Britain, Japan and the United States is an early example of the need to accept constraint in securing the resources of the sea. The parties to the treaty also accepted the US Revenue Cutter Service as a *de facto* international maritime police force that would enforce the Convention.³⁸

In more recent times, the freedom of the open seas has been qualified through agreements that fishing limits may be applied to the high seas (such as the UN Agreement on Straddling Fish Stocks, 1995, and the prohibition on wall-of-death driftnet fishing in the Pacific) and by measures to protect the general marine environment (the London Dumping Convention of 1972).

Nor is UNCLOS necessarily the end of the process. Its articles are increasingly regarded as providing the framework for international maritime cooperation in the suppression of piracy, the drugs trade, the protection of the marine environment, and so on, in ways that establish expectations of future naval action.

As we saw in Chapter 10, the resources of the sea need increasingly to be protected from pollution and unsustainable levels of exploitation; this can only properly be done on a collective and global basis. Grotius's argument reflected the then fact that the sea could be used by one country without reducing its value for anyone else and the assumption that the resources of the sea (especially fish) were limitless. Manifestly, centuries of over-fishing mean that they are not. Accordingly, the main plank of this part of Grotius's argument falls away.

All this led Mario Soares' Independent World Commission on the Oceans to conclude that:

It is in the obvious interest of all to ensure that the oceans do not become a zone of rampant criminality and the general absence of a regulatory presence makes it difficult to establish the required safeguards.³⁹

The Commission proposed a new ocean order in which the high seas would be treated as a public trust. It even suggested that the roles of navies be re-oriented to afford the missing 'regulatory presence' that proper stewardship requires.

It would follow from this that ships moving about any part of the world ocean (high seas, EEZs and territorial sea) are increasingly likely to be subject to regulation for resource, safety and environmental reasons. As we saw in Chapter 10, this is not in itself

new. A growing concern for safety at sea led to the 1899 International Maritime Conference in Washington, which established many of the navigational safety rules still in place today; but these conventions also implied that anyone who did not do what they said was regarded as breaking rules that applied to everyone, wherever they were. Such increasing concerns, however, seem likely to lead to an acceleration of a long-established trend further to qualify the concept of free navigation. Nor can we expect warships to be entirely immune to these developments.

We are also likely to see radical shifts in future conceptions of maritime sovereignty. Instead of being thought of as 'control' and independence from other jurisdictions, sovereignty is increasingly being thought of as relative rather than absolute, inclusive rather than exclusive, something that can be pooled or shared. On land, this approach is manifested in the view that sovereignty can and sometimes should be over-ridden in operations of humanitarian intervention. At sea, there will surely be growing acceptance of the notion that there is far more to the legitimate and responsible exercise of sovereignty than a country's posting 'Private Property: Keep Out' notices around its maritime frontiers. Sovereignty implies a duty of care, and countries will increasingly be expected to exercise it.

Equally, the notion that the ocean is a 'global commons' is likely to be subject to some reinterpretation. Instead of being an area of the world's surface that is outside jurisdiction and so free for everyone to use, it is increasingly regarded as a common domain belonging to everyone, including future generations as yet unborn. Instead of being the object of a free-for-all where those who can have the licence to do what they want, the sea will be thought of as a huge area of shared sovereignty and agreed regulation on current and future use, in the common interest of all mankind, present and future.⁴⁰ In short, the high seas are increasingly seen as belonging to everyone, rather than to no one. All this is likely to affect the conventional operations of naval forces. It may also provide them with even more responsibilities, possibly including the challenging proposition that what the world really needs is not just a coast guard, but an 'ocean guard' and that navies are best placed to supply it.⁴¹

Transportation, globalisation, technology and the death of distance

Technology effectively determined the *extent* of the sea areas that countries could justifiably regard as their own. Traditionally, this was the sea area that could be covered by shore-based cannon. With a following wind this could be as much as three miles, and became the usual measure of the 'territorial sea'.

However, in more recent times, the reach of shore-based technology has extended so much that to some extent at least it covers all the ocean. With satellites and patrolling UAVs, the ocean is under surveillance to an unprecedented degree. This does not mean that the ocean has ceased to be a place in which naval forces can hide, but it does mean that its surface at least is much less of an unknown desert than it used to be. Modern technology allows the countries that have the necessary technological and military capacity to extend their influence over the open ocean.

The high seas have shrunk, not just in a literal way with the extension of the territorial sea, but metaphorically too, because the processes of globalisation mean that geographic distance matters so much less than it did. In the *Tampa* affair, for example,⁴² Australia

found itself dealing with migrants fleeing from a conflict in Afghanistan in which a terrorist group led by a Saudi national was attacked by an American-led international coalition involving countries as far apart as Japan and Denmark. Indeed, the events of 11 September themselves showed how distant quarrels could be brought home to the United States with horrific consequences. This all means that everyone has an increasing security interest in what happens 'over there' and, in consequence, the intervening ocean areas are better seen as joining rather than separating them.

This signifies a substantial shift in attitude, since originally the use of the sea as a means of transportation was the main impulse towards the notion of free navigation. Nowadays, however, it is increasingly having the reverse effect. The protection of this ancient attribute of the sea increasingly requires combined action on the high seas, against everything that might threaten it (drug- and people-smuggling, piracy, disorder ashore). The freedom of navigation, in other words, depends on the suppression of other people's freedom to misuse or interfere with it. This in turn requires maritime powers to accept limitations on their freedoms as well.

This is not, of course, completely new. Because pirates have always been seen as the enemy of all mankind (*hostis humanis generis*), it has become widely accepted that their suppression warrants interference with ships on the high seas flying the flags of other states. This shows early acceptance that ships are only free to use the sea for legitimate purposes. The right of free navigation is not an absolute; it is in fact a matter of degree. But it may well become further qualified.

For example, worries about international terrorism and the spread of weapons of mass destruction have already led some countries to review their attitudes to the right to stop and board ships on the high seas that are suspected of engaging in such illicit activities. What is particularly significant about this development is that it is some of the traditional maritime powers, especially the United States, who are in the vanguard of this review. Hitherto, their argument has been that the special value of the high seas is that it acts as a grand and unimpeded 'manoeuvre space' which, first, best assures the safe and timely passage of the merchant shipping on which world prosperity depends and, second, and crucially, allows navies to project both diplomatic and military power ashore. The fact that they, of all countries, are prepared to consider striking a new balance between these approaches to the freedom of navigation may prove highly significant for the development of this concept in the twenty-first century, which could in turn have real consequences for future naval operations.⁴³

Despite the safeguards won for them in the UN Convention on the Law of the Sea, sailors are aware that their ancient freedoms are under threat, because

...an alarming number of countries have tried to impose prior notification and consent regulations that are nowhere recognised or contemplated in the Law of the Sea Convention, and there are developing threats to the basic principle of the 'sovereign immunity' of warships.⁴⁴

However, two things suggest they should not become too alarmed about such possible developments. First, the notion that naval activity on the high seas be regulated is not of course new. Despite the emphasis on the freedom of the seas, naval activity, even on the high seas, has in fact long been subjected to constraint. In the nineteenth century, for

example, the Declaration of Paris (1856) followed international agreement about the conditions in which trade could or could not be attacked. But it also demonstrated that the usage of even the open ocean could be constrained by legal regulation. Indeed, in such instances as the Battle of the River Plate (1939) both the British and the Germans regarded making use of the laws regulating armed conflict at sea as an important part of their strategy.⁴⁵ Second, if the ocean as a grand manoeuvre space is as strategically valuable as this book has tended to argue, then it is unlikely to be cast aside lightly, and the maritime powers are in the best place to ensure that this does not happen. Even so, working out how they should respond to all these probable developments is likely to become a major feature in strategic thinking for the navies of the twenty-first century.

The Range of Naval Tasks is Likely to Increase

As a result of all this, maritime forces are facing a new, much more politicised, complex and messy set of situations in which they may be called upon to deliver everything from bombs to babies. As Harlan Ullman points out, their expanding and widening role will require thought. 'What will be needed', he concludes, 'is a new mentality and way of thinking that goes beyond traditional war-fighting and its professional skills.'⁴⁶ Conventional forms of military power have their limits. Navies therefore need to diversify.

Much of this is likely to be related to probable (certainly necessary) shifts in mankind's attitude to the oceans. By not being pollutants themselves, by making scientific data as accessible as possible, by selling the sea to sceptical publics and by enforcing protective regulations, navies have much to offer in the task of safeguarding the sea itself.

There Will be a Continuing Focus on the Littoral

Despite common perception, most naval activity has taken place in the littoral. This is likely to continue, even increase, at least for the time being. Part of the reason for this is that many of the world's problems manifest themselves in the littoral regions where access and support from the sea is available. Indeed, the Afghanistan operation of 2001–02 shows just how far inland such sea-based operations can go.

The characteristics of classical naval power (mobility, assured access, reach, flexibility, controllability) will continue to be well suited to the conduct of wide-ranging and politicised operations in the littoral. Because the requirements of littoral operations are both wide-ranging and hard to predict, flexibility is surely key. The ability of the British carrier HMS *Illustrious* to 're-role' itself into a helicopter-carrying amphibious warfare ship in five days at the end of the *Saif Sareea II* Exercise in 2001, so that it could participate in operations in Afghanistan, aptly illustrates the immense value of growth and development potential both in fleets and in individual units.

Another key is a navy's capacity to maintain vigilance in every level of their activity. Mahan emphasised that 'accurate intelligence is one of the very first desiderata of war',⁴⁷ and his point should surely be extended to peacetime operations as well. Technology increasingly offers the means for sea-based surveillance to be persistent, and navies had best to do all they can to take the offer up.

All the same, while the capacity to participate in expeditionary operations is at the moment the key to being a security provider, it should not be assumed that this will for ever necessarily be the main focus of significant navies. Nor should it be assumed that this focus in any sense reduces either the need for sea control, or the abiding value of the qualities that are required to gain and maintain it.

To judge from the global trend towards the acquisition of more capable coastal submarines, and the tendency to move from inshore patrol craft to offshore corvettes, many of the world's smaller navies are also taking a more ambitious view of what the littoral means as well, even if their perspective on this tends to focus more on protecting their own littoral rather than conducting operations in other people's. Accordingly, they are disinclined to regard themselves 'merely' as coastguards. The quiet upgrading of the Singapore Navy through the acquisition of Swedish *Sjoormen* diesel submarines, the French La Fayette light frigate/corvette and the locally built Endurance-class landing craft, the completion of new base facilities at Changi and Singapore's determined coalition-building activities provides a good example of this.

11.11 NAVAL FORCE DEVELOPMENT IN THE TWENTY-FIRST CENTURY

All of this has some obvious implications for how navies should develop and behave in the twenty-first century. They face a range of options. Many of the issues discussed in this chapter, and before, mean that navies face choices in force development about where they should put their emphasis—on this capability rather than that, on independent operation rather than interoperability with others, on green waters rather than blue, on a military orientation rather than a constabulary one. The balance they strike in these key areas of choices will reflect their size, strategic circumstance and national priorities, and will be demonstrated by their particular concept of what 'a balanced fleet' means to them, their force development and their overall policy.

The key question confronting them all, however, is the balance they choose to strike between being a contributory navy, that expects normally to act in the company of others in a maritime consortium on the one hand, and a stand-alone navy of independent means and persuasions, on the other. When the Indian Navy was being established in the 1940s this was precisely the choice confronting its government. Should it do what the British suggested and contribute light forces to a kind of Commonwealth naval network spearheaded by the Royal Navy, or should it aim to strike out on its own? This was a very political matter. The government took the second, apparently more ambitious, route, but failed to provide the resources that it needed. Paradoxically, the universal resources-commitments gap confronting navies the world over means that being a useful contributor now tends to be the more ambitious choice for most navies and their political masters.

The need to prepare for coalition maritime operations and to develop a strategy for interoperability mandates a focus on the mechanics of multi-national naval cooperation and a determined effort to ensure that the main sheriffs/systems administrators do not become unilateralist for either technical or political reasons. Naval diplomacy, especially

of the coalition-building variety, is the means by which the necessary security communities will be created.

The capacity to interoperate and to cooperate in an increasingly globalised maritime arms industry will be important too. The pattern by which one country (say Australia) offers another (say, the United States) expertise in niche areas (catamaran and diesel submarine operation), in return for assistance in other areas, seems to be a sensible solution to the universal problem of resource limitations noted earlier.

The same argument applies to interoperability with the other services, where navies are increasingly needing to think of themselves as contributing (no doubt decisively!) to joint and combined operations.

All this implies a none the less significant loss of that tradition of operational independence and centralised fleet command that has for so long been such a characteristic of navies. The extent to which command, even in the US Navy, has been subsumed within regional commanders from other services, such as CENTCOM for instance, must raise the issue of the extent to which even the strongest of navies should continue to be seen as operational actors in their own right. Indeed, in the long run, the demands of interoperability may require the world's navies increasingly to act as its airline industries do—forming consortia, agreeing common rules and regulations, accepting more and more direction, interfacing with other forms of transport, buying from a restricted range of suppliers, and so on.

The need to safeguard the sea itself, moreover, also mandates working with the other maritime agencies more and more, and if necessary accepting the costs of doing so here as well.

Rethinking Old Ideas

Mahan, Corbett and the rest of them still matter because—the trend towards cooperative maritime endeavour and widening interpretations of what is covered by the concept of maritime security notwithstanding—many navies will still need to be primarily interested in developing their independent battle-winning capacity.

Even so, some of the assumptions of traditional maritime strategy may need modification in line, for example, with shifts and attitudes to the sea. According to Corbett, the distinctiveness of naval strategy, and what set it apart from the strategy of land warfare was that 'the sea cannot be the subject of political dominion or ownership. We cannot subsist upon it...nor can we exclude neutrals from it.'⁴⁸ The fact that all these things have become possible shows the need for constant reflection on the consequences of change.

The need to respond to a probable new ocean order is only one of the conceptual challenges facing the world's navies. Another might well be the need to respond to consequence of the prospective loss of operational independence noted earlier. To the extent that navies do get 'denationalised', for example, it might even prove necessary to reconsider the future validity of some of the assumptions of classical maritime strategists such as Mahan and Corbett, since they were generally based on the old-fashioned nation-state as the basic unit of concern, and conflict as the state of nature. These days, developing strategic concepts for the conduct of naval diplomacy or refining their

approach to interoperability and soft maritime security issues might prove rather more to the point.

More immediately, conscious and continual reflection on the point and purpose of naval forces remains essential—since it reduces the risk of being mesmerised and overtaken by technological possibilities. Technology itself is a source of constant challenge. Strategic thinking needs to keep up with technology in order to avoid being overwhelmed by it. Navies need to ponder the probability that the technological transformation hitting them at the beginning of the twenty-first century is not a one-off process, but a continual one that will never stop.

Transformational technology can be mishandled in many ways. One is to focus exclusively on the use navies can make of exciting new technology rather than on the effects they need to have. Strategy needs to centre on objectives, and what is necessary to achieve them, rather than on acquiring and exploiting the latest technology simply because it is available. Strategy should be based on effects, not technological capability. The current obsession with ‘network-centric warfare’ rather than ‘network-enabled capabilities’ is a classic example of such dangerous thinking. Another all-too-common danger is the procurement-led approach to strategy. Technology is only a means to an end, and constant strategic reflection is needed to help remind us of that enduring fact. Getting the balance between strategy and technology right will continue to be one of the most important determinants of twenty-first century seapower.

Moreover, although, with the end of the Cold War, there has been a historic opportunity to rethink, change and expand the useful effects that navies can have, it would be wrong to suppose that mankind has in any sense reached the end of the road. The nature of the challenges it has faced has frequently changed before, not least because the ‘losers’ have every incentive to change the rules they lost by.

The current stress, for example, on manoeuvre warfare and expeditionary operations may well not survive the next disaster, and their apparent failure could easily revolutionise the subsequent agenda. Believing that one has the final answer is a certain way of ensuring that one has not.

The navies of the twenty-first century, in short, face a grossly uncertain future, about which future sailors and those interested in their ways will need constantly to reflect. It is hoped that this book will help them do so.

Notes

CHAPTER 1: THE SEA AND SEAPOWER

1. Quoted in George (1978), p. 86.
2. Falk (2000), p. 15 ff.
3. Corbett (1988), p. 67.
4. Till (1997).
5. Gray (1999), pp. 217–27 and more extensively in (1992).
6. Sater (1991).
7. Rodger (1986), p. 15.
8. This section relies heavily on Cunliffe (2001) and the work of Professor Michael A. Crawford, Institute of Brain Chemistry and Human Nutrition, London. See also ‘Eating Fish is Good for Brain’, *Guardian*, 25 Oct. 2002.
9. Cunliffe (2001).
10. ‘Divers Surprised by Iron Age Port’, *Guardian*, 17 Sept. 2002.
11. Forage (1991), p. 6; also Kane (2002), pp. 15–32, esp. pp. 25–6.
12. Deng (1997), pp. 50–1; ‘Chinese Outdid Columbus Briton Says’, *New York Times*, 17 Mar. 2002; Menzies (2002).
13. Reprinted in Hattendorf (1991b), p. 284. I am grateful to Cdr Sam Tangredi for drawing my attention to this comment.
14. Mahan (1900), pp. 37–8; Falk (2000), p. 88; Adam Smith, *The Wealth of Nations* (London, 1776).
15. Cable (1998), pp. 22–3.
16. Smith, *Wealth of Nations*, bk 1, ch. 3.
17. See Sushil Chandhury and Michel Morineau (eds) *Merchants, Companies and Trade: Europe and Asia in the Early Modern Era* (Cambridge: Cambridge University Press, 1999).
18. Mahan (1900), p. 99.
19. See Wong (1998) and Beeching (1975).
20. Mahan (1900), p. 177.
21. De Souza (2001), p. 185ff.
22. Deng (1997), pp. 155–8.
23. De Souza (2001), pp. 131–2ff.
24. Matheson and Matheson (1964), pp. 137–60.
25. Hough (1994) and Padfield (1999), pp. 232–6.
26. Hough (1994), p. 1.
27. Mahan (1900), p. 174.
28. A thesis explored at length in Ingram (2000), pp. 126–7.
29. Quoted in F.T. Jane, *Heresies of Sea Power* (London: Longmans, 1906), p. 179.

30. Quoted in Padfield (1999), pp. 1–2.
31. Cited in Livezey (1981), pp. 281–2.
32. Friedman (2000a), p. 202ff.; Tangredi (2002), p. 127.
33. Corbett (1988), p. 49.
34. Alam (1999).
35. Forage (1991), p. 6.
36. Rodger (1986), p. 29.
37. Casey-Vine (1995), p. 323.
38. Lanessan (1903).
39. Notably Padfield (1999) and Harding (1999).
40. Cited Padfield (1999), p. 69.
41. Rodger (1997), pp. 432–3.
42. Forage (1991), pp. 8–9.
43. R.Strausz-Hupe, *Geopolities: The Struggle for Space and Power* (New York: Putnam, 1942), p. 26.

CHAPTER 2: WHO SAID WHAT AND WHY IT MATTERS

1. Mahan (1902), p. 77.
2. Churchill cited in Lehman (1988), p. 25.
3. Corbett (1904), p. 154.
4. This is the burden of Gordon (1996).
5. Heuser (2002), p. 578: this book is a recent and accessible review of Clauswitz, nicely complementing Handel (2001). The classic summary is Howard and Paret (1976).
6. Fisher (1919b), p. 81. For a strong counterblast see N.Lambert (1998) and A. Lambert (2002).
7. Musashi (1995), p. 37.
8. Osgood (1962), p. 5.
9. Cited Heuser (2002), p. 34.
10. Liddell Hart (1967), p. 335.
11. Corbett (1905), p. 285; Shulman (1995), pp. 78, 121.
12. Mahan (1911), pp. 2, 299–301; also Corbett (1907), vol. I, pp. 332–3.
13. Gray (1999), p. 364; Reeve (2001), p. 9.
14. Gray (1999), p. 222; Booth (1977), p. 6; Brodie (1965), p. 115.
15. Slade (1993), p. 183.
16. Lavery (1998), p. 168; Mahan (1902), pp. 151–69; Rodger (1999), pp. 178–200. See also Tritten and Barnett (1986) and (1989).
17. Lavery (1998), p. 77.
18. MoD (UK) (1995), pp. 185–8.
19. Admiral V.Chernavin, ‘On Naval Theory’ (trans.), *Morskoi Sbornik*, no. 1, Jan. 1982.
20. US Naval Doctrine Command (1995); also Tritten (1996).
21. Lewis (2001).
22. Brigadier-General I.B. Holley, Jnr, cited in Tritten (1994), p. 18.
23. Corbett (1988), pp. 3–11, 322–5; also MoD (UK) (1995), p. 11.
24. Corbett (1905); Tunstall (1990).
25. Clerk (1790), pp. 17–18, 147–8.
26. Hattendorf *et al.* (1984) and Hattendorf (1991a) discuss the interplay of Mahan and the Naval War College.
27. Hattendorf (1991a), ch. 2; also N.Lambert (1998) and Sumida (1997).
28. Sumida (1999).

29. Cited in Livezey (1981), p. 42.
30. Mahan (1890), p. 91.
31. Mahan (1899a), p. 264.
32. Mahan (1890), p. 209.
33. Mahan (1899a), p. 305.
34. Ibid., p. 203.
35. Ibid., pp. 300–1.
36. Mahan (1890), pp. 383–400.
37. Ibid, p. 32.
38. See Hattendorf (1991a) generally and Castex (1994), esp. pp. 69–70.
39. Palmer (1988) and Hegmann (1991).
40. Gorshkov (1979), p. 230.
41. Ranft and Till (1989), pp. 163–71; Hattendorf (1991a), p. 4.
42. Watkins (1986). Friedman (2001), pp. 219ff, is a good introduction. For a variety of competing views amongst the various progenitors of *The Maritime Strategy* (TMS) see Goldrick and Hattendorf (1993), pp. 185–6, 202, and Miller and Van Evera (1988), pp. 160–70. Also Baer (1994), p. 429 ff. The definitive history of the development of TMS is Peter Swartz's unpublished Centre of Naval Analysis Study, 'The Maritime Strategy of the 1980s: Threads, Strands and Line'.
43. Komer (1984).
44. Sumida (1997), pp. 80–98.
45. Cited in Schurman (1981), p. 44.
46. Bryan Ranft, 'Sir Julian Corbett' in Till (1984), p. 240.
47. Corbett (1917), vol. I, pp. ix, 345–7 and vol. II., p. 75; Corbett (1988), pp. 3–9.
48. See Heuser (2002), pp. 124–33; Handel (2001), pp. 277–95.
49. Corbett (1907), vol. I, p. 5.
50. Corbett (1988), pp. 15–16.
51. Corbett (1917), vol. I, p. 6; also Corbett (1988), p. xxv.
52. Corbett (1914), vol. I, p. 17; see also pp. 174–5, 328.
53. Ibid., pp. 68, 187.
54. Hughes (1997), pp. 36–7.
55. Corbett (1988), pp. 53–8.
56. Cited in *ibid.*, p. 58.
57. Ibid., p. 66.
58. Ibid., pp. 57–8.
59. Cited in Kennedy (1989), p. 168.
60. Corbett (1988), p. 167.
61. This was inserted into vol. III of Corbett (1920–31). For background see Ranft (1993).
62. See the anonymous 'Sea Heresies' and 'Some Notes on the Early Days of Royal Naval War College' in *Naval Review*, 1931.
63. Corbett (1914), vol. I, pp. 46, 73; Corbett (1988), pp. 103–4.
64. Corbett (1988), p. 91.
65. Ibid., p. 164.
66. Corbett (1907), p. 5.
67. Corbett (1920–31), vol. II, pp. 41–2.
68. Ibid., pp. 93, 241.
69. Callwell (1996a), p. 444. Colin Gray's introductory summary is particularly useful.
70. I am grateful to Christian Liles for reminding me of Molyneux's operational focus.
71. Fisher (1919a), p. 212.
72. Hunt (1982) and (1993); Baugh (1993); Liddell Hart (1967).
73. For an example of this response see comment by Schurman in Goldrick and Hattendorff (1993), p. 113.

74. Castex (1994), pp. xxxvi, xx.
75. MoD (UK) (1995), p. 63. Also Grove (1996) and MoD (UK) (1999).
76. MoD (UK) (1995), p. 184.
77. *Australian Maritime Doctrine* (2000), p. 45.
78. Baer (1994), p. 451.
79. Copies of these two documents are conveniently found in the *Marine Corps Gazette* for Nov. 1992 and Feb. 1994 produced by successive Secretaries of the Navy Sean O'Keefe and John H. Dalton. Breemer (1994); Huntington (1954).
80. Dalton *et al.* (1994), p. 21.
81. Baron Richard Grivel, *De la Guerre Maritime* (Paris, 1869), p. 50. Roksund (2003) is a convenient recent summary of the Jeune Ecole.
82. Quoted in Richmond (1953), p. 43.
83. Quoted in Marder (1940), p. 87.
84. Lanessan (1903).
85. Von Waldeyer-Hartz, 'Naval Warfare of Tomorrow', *Wissen and Wehr* (1936) and Ernst Rinse, *Neuzeitliche Seekriegsführung* (Berlin: Mittler, 1938): the former cited in Rosinski (1977), p. 64.
86. Mahan (1899a), pp. 49–50.
87. Fisher (1919b), pp. 174, 182–3. For further discussion of this see N. Lambert (1999).
88. Quoted in S.A. Tyushkevich, *The Soviet Armed Forces: A History of their Organisational Development* (Moscow, 1978), USAF English translation, p. 163.
89. Quoted in Herrick (1988), p. 7.
90. *Ibid.*, p. 79 ff.
91. Quoted in *ibid.*, p. 10.
92. *Ibid.*, pp. 71–2.
93. Borresen (1994) and more recently in Hobson and Kristiansen (2003).
94. Tzalel (2000), p. 11.
95. Naveh (1997) provides a stimulating introduction to understanding operational art.
96. MoD (UK) (1999), ch. 7.
97. Svechin (1926); MoD (UK) (1999), para. 328.
98. Amongst the USMCs excellent series of publications on this are Krupp (1999) and (n.d.) *Operational Maneuver*, O'Keefe, Kelso and Mundy (1992), p. 92.
99. Castex (1994), pp. 101ff., esp. pp. 105 and 169.
100. Hughes (1991) and (2000).

CHAPTER 3: THE CONSTITUENTS OF MARITIME POWER

1. Harding (1999), p. 286.
2. *Ibid.*, p. 121.
3. Padfield (1999), p. 3.
4. Rodger (1997), pp. 433–4.
5. Quoted Richmond (1934), p. 38.
6. Cited N. Lambert (1999), p. 168.
7. Harding (1999), p. 60. This is also a constant theme in Casey-Vine (1995), pp. 341, 346, 389 ff, 402, etc.
8. For discussion of examples in Taiwan and India see *Defense-aerospace* (France), 10 July 2001, 15 Oct. 2001; *Fane's 's Defence Weekly*, 21 Mar. 2001; *China Times*, 18 May 2001, 3 Oct. 2001.
9. McCaffrie and Hinge (1998), pp. 10–24. For an Indian example see *ibid.*, p. 85.

10. See Goldrick (1997), pp. 6–8; Roy (1995), pp. 43–51.
11. *The Times*, 25 July 2001.
12. Gray and Sloan (1999) is an excellent introduction to the impact of geography on strategy.
13. Griffiths, Haydon and Gimblett (1998), p. 13; Cozens (1996), esp. pp. 231–3: a book that derived from a conference set up specifically to recommend new attitudes to the sea. Cdr R.J.Jackson, 'Developments in NZ', *Naval Review*, Jan. 2001.
14. Cited in Rahn (2001), p. 117. For an Australian example, see D.Stevens (2001), vol. III, p. 1.
15. Mahan (1900), p. 117; Gorshkov (1974), p. 13.
16. Quoted in C.Bertram and J.J. Holst (eds), *New Strategic Factors in the North Atlantic* (Oslo: Universitetsforlaget, 1977), p. 37.
17. For two comprehensive and detailed reviews of this see Lindberg (1998) and Lindberg and Todd (2002).
18. Goldrick (2001), p. 292.
19. Rodger (1986), p. 29.
20. Captain James Goldrick (RAN), *Naval Review*, April 2001, p. 103.
21. A.Wright, *Australian Carries Decisions* (Canberra: Maritime Studies Programme, Department of Defence (Navy), 1998), pp. 111–61.
22. Cited in N.Lambert (1998), p. 125.
23. A. Dorman, M.D.Kandiah and G.Staerck (eds), *The Nott Review*, Institute of Contemporary British History Witness seminar, 20 June 2001 (ICBH, 2002), <http://www.icbh.ac.uk/witness/nott/review>.
24. Paul Olkhousky, *Russia's Navy from Peter to Stalin: Themes, Trends and Debates* (Washington, DC: Centre for Naval Analyses, repr. of CRM 92–40, June 1992).
25. Harding (1999), p. 25.
26. Peter Haydon, 'The Canadian Navy at (Another) Crossroads', *Naval Review*, Jan. 2001, p. 37.
27. Wright (1998), pp. 14, 69, 93, 122–3, 130–1.
28. *Straits Times*, 4 April 2001; *Times of India*, 6 April 2001.
29. A.Lambert (1998), p. 137.
30. Letters of 2 April 1745 and 14 March 1745/6, Julian Gwyn (ed.), *The Royal Navy and North America* (London: Navy Records Society, 1973), pp. 71, 223.
31. Mahan (1890), p. 23.
32. Speech reported in *The Gentleman's Magazine*, Sept. 1745, pp 465–6.
33. Harding (1999).
34. Quoted in C.B.A.Behren, *Merchant Shipping and the Demands of War* (London: HMSO, 1955), p. 479.
35. Falk (2000), pp. 24, 87—part of an especially effective discussion of the topic; US Coast Guard, *21st Century Hemisphere Maritime Security: A USCG Deepwater Vision* (Washington, DC: USCG, 1998), p. 16; A.Gibson (1992).
36. A.Gibson (1992).
37. Interview with D.T.Joseph, Mumbai, and material from Indian Maritime Foundation, Pune (February 2002).
38. Padfield (1999), p. 250.
39. Sondhaus (2001), p. 89; Bell (2000), pp. 182–3.
40. 'The Box That Launched a Thousand Ships', *New Yorker*, 11 Dec. 2000.
41. Coulter and Goldman (1998).
42. Ibid.
43. A point made with some vehemence by Hugh McCoy, Chairman of the Baltic Exchange, in 'World Trade and the Role of the City of London', in Till (2001), p. 179.
44. Cable (1998), p. 168.
45. Seech. 11 in Till (2001).
46. Quoted in *Defense News*, 27 Feb. 2001.

47. Kane (2002) and A. Wilson (2001) are good introductions to this; Mahan (1890), p. 71.
48. D. Evans (2001); D. Evans and Peattie (1997).
49. Jacob Kipp, 'The Second Arm and the Problem of Combined Operations', in P. Gillette, P. Willard and C. Frank (eds), *The Sources of Soviet Naval Conduct* (Lexington, MA: Lexington, 1990), p. 188.
50. Posen (2001); some badinage from the UK Joint Services Command and Staff College. See also P. D. Taylor (2001).
51. Admiral William J. Crowe with David Chanoff, *The Line of Fire* (New York: Simon & Schuster, 1993), p. 159.
52. Interviews with Rear-Admiral Byce, Chief of Staff Western Command (Mumbai), with the Assistant Chief of the Naval Staff (Delhi) and with Rear-Admiral Bharathan ACNS (Air), February 2002; also *Fane's Defence Weekly*, 7 March 2001.
53. Pokrant (1999a), pp. 61, 64, 67, 72.
54. Ibid., p. 235.
55. Pokrant (1999b), p. 291, pp. 281–93.
56. Ibid., pp. 176–8.
57. Crickard *et al.* (1998) and Haydon (1998). Haydon and Griffiths (1995) take this issue further. G. C. Wilson (1998) discusses the need to harmonise rules of engagement in multinational naval operations. The Churchill quote is cited on p. 1–1/12 of US Naval Doctrine Command (1995).

CHAPTER 4: NAVIES AND TECHNOLOGY

1. Grove (1990), pp. 236–40. See also Lindberg (1998) and Lindberg and Todd (2002). Also Hill (1986), pp. 14–27.
2. Rodger (1997), pp. 150–2.
3. But see Harding (1999), pp. 143 ff, 281–7.
4. Ibid., p. 143.
5. Hill (1986) explains where medium powers such as India, Australia and Canada fit into this.
6. David Stevens, *Prospects for Maritime Aviation in the Twenty First Century* (Canberra: Maritime Studies Program, 1999) shows exactly the same arguments between the RAAF and the RAN as between the RAF and RN. See p. 4 ff.
7. Harding (1999), p. 270; Woodman (1998), p. 10; D. Evans and Peattie (1997), p. 351.
8. The victories of the Nile, Copenhagen and Trafalgar were all won against superior forces: Lavery (1998).
9. Rodger (1997), p. 105.
10. Ibid., p. 430.
11. Harding (1999), pp. 181, 203.
12. See van Creveld (1977) and Thompson (1991).
13. Griffiths, Haydon and Gimblett (1998), p. 132, p. 97; *ibid.*, pp. 101, 117, 124.
14. See special review, *Armada International*, April 2000.
15. Michael Moran, MSNBC, 'In the Navy, Size Does Matter', MSNBC.com, 29 March 2001.
16. 'Making Waves: Multihulls Move in on Military Markets', *Fane's International Defence Review*, Jan. 2002. For another useful summary see David Andrews, 'Technology, Shipbuilding and Future Combat Beyond 2020', in O'Brien (ed.) (2001), pp. 248–62.
17. 'Survival of the Fittest', *Fane's 's Defence Weekly*, 23 Jan. 2001.
18. Friedman (2001), pp. 245–6.
19. 'Flexing a Snap to Fit Fleet', *Fane's 's Defence Weekly*, 7 Nov. 2001.
20. Fisher (1919b), p. 174.

21. Edmonds (2001) is an excellent introduction to this issue.
22. Reported in *Fane's Defence Weekly*, 18 Oct. 2000.
23. Cdr Nick Harrap, 'The Submarine Contribution to Joint Operations', in Edmonds (2001), pp. 83–9, also pp. 154–68, 243.
24. Keith Hartley, 'An Economic Evaluation of the UK Government's Decision on a Future Carrier', in Hirschfeld and Hore (1999), pp. 77–98.
25. See Friedman, 'The Future of Shipboard Aircraft', in Hirschfeld and Hore (1999), pp. 117–30; reported in *Fane's Navy International*, May 1999, and Vice-Admiral Dennis McGinn, 'Why the Aircraft Carrier is Still a Worthwhile National Asset', *Fane's Defence Weekly*, 20 June 2001.
26. Friedman (2001), p. 306.
27. Owen R. Coté, Jr, MIT Security Studies Program, 'Assuring Access and Projecting Power' (2001), p. 50.
28. Ken Gause, 'Consideration for 21st Century Carrier Navies' in Hirschfeld and Hore (1999), pp. 177–212.
29. See the survey in *Armada*, 4 (1999).
30. Pokrant (1999a), pp. 231–41, and survey in *International Defense Review*, 2 (2000).
31. H. Ullman, 'When is a Revolution in Military Affairs, A Real Revolution?', in *World Defence Systems* (London: RUSI, 2001). Coquinot (1997); Friedman (2001), p. 254.
32. Inskip (2002), pp. 150–85.
33. Friedman (2001), p. 260.
34. Gordon Moore, co-founder of Intel Corporation, noted in 1979 that the density of transistors on chips, and thus the price-to-performance ratio of computers, doubled every 18 months and that this would continue indefinitely.
35. Lovelace (1997), p. 48.
36. Owens (1995a); Cebrowski and Gartska (1998). Gongora and von Riekhoff (2000) is a useful introduction, especially Martin Libicki, 'What is Information Warfare?', pp. 37–60.
37. Cited in Till (1979), p. 145.
38. Tunstall (1990), pp. 202–3.
39. This is the general argument of Gordon (1996).
40. Friedman (2000b), pp. 129 ff, 148, 163, 172, 175–9, 227.
41. Cited in E.H. Tilford, 'The RMA: Prospects and Cautions', US Army War College Strategic Studies Institute paper (1995), p. 1.
42. For example, Menon (1998), pp. 182–3.
43. See Clifford J. Rogers, 'Military Revolutions and Revolutions in Military Affairs: A Historian's Perspective' in Gongora and von Riekhoff (2000), pp. 21–36.
44. Musashi (1995), p. 86.
45. Barnett (1991), p. 11.
46. For competing views see R.L. O'Connell (1991) and William M. McBride, *Technological Change and the United States Navy, 1865–1945* (Baltimore, MD: Johns Hopkins University Press, 2001) on the one hand, and the more historically based views expressed in Moretz (2002), Ranft (1977) and Bell (2000) on the other.
47. Casey-Vine (1995), p. 345, 409–16.
48. Krepinevich (1994).
49. Evans and Peattie (1997), p. 300; Edgerton (1991), p. 34.
50. O'Brien (2001), pp. 43, 48, 6–8; Till (1979), 102–4.
51. Sondhaus (2001), p. 103.
52. O'Brien (2001), p. 143.
53. Ibid., p. 157; Reason (1998), p. 51.
54. This assumes the strong leader is pursuing a coherent vision. For an alternative view of the Gorshkov era, see Evan Mawdsley, 'The Russia Navy in the Gorshkov Era' in O'Brien (2001), esp. pp. 173–9. On Admiral Gombai see Evans and Peattie (1997).

55. Mackenzie (1995), pp. 226, 212–42, also Nailor (1988), pp. 99–105.
56. Evans and Peattie (1997), p. 304.
57. Sondhaus (2001), p. 68.
58. Mindell (2000), p. 71.
59. Sondhaus (2001), pp. 199–200 is a useful summary of the views expressed in Sumida (1989) and N.Lambert (1999).
60. Mahan (1892), vol. I, p. 102.
61. C.V.Bett, 'Development in Warship Design and Engineering', *Proceedings of the Institution of Mechanical Engineers*, vol. 210 (1996).
62. I am grateful to Major Irvin Lim of the Singapore Navy for his lively and stimulating comments on much of this chapter.

CHAPTER 5: COMMAND OF THE SEA

1. Corbett (1907), vol. I, p. 6.
2. Colomb (1899), p. 173.
3. Richmond (1946), pp. 326–36.
4. Bridge (1910), p. 84.
5. G.S.Clark and J.R.Thursfield, *The Navy and the Nation* (London: John Murray, 1997), pp. 126–7; comment by G.S.Graham, quoted in Reynolds (1974), p. 211.
6. Castex (1994), p. 53 ff.
7. Mahan (1911), pp. 260–1.
8. Brodie (1965), p. 108.
9. Mahan (1890), p. 14; Bacon (1936), p. 192.
10. Raeder, report to the Führer, 9 Mar. 1940, Führer Naval Conferences, MoD Naval Historical Branch Library.
11. On their way to Dieppe some of the raiders ran into a strongly escorted Germany convoy and were badly mauled. This greatly disrupted the effectiveness of their landing operations. T.Robertson, *Dieppe: The Shame and the Glory* (London: Hutchinson, 1963), pp. 194–213.
12. Mahan (1911), p. 218.
13. Colomb (1899), p. 212.
14. Corbett (1907), vol. II, pp. 20–1.
15. Grenfell (1937), pp. 92–3.
16. Armada de Chile (n.d.), pll.
17. Tzalel (2000), p. 86.
18. Corbett (1988), p. 234.
19. Gorshkov (1979), pp. 122, 217.
20. See Franklin (2003) for a detailed review.
21. Brodie (1965), p. 74.
22. Gorshkov (1979), p. 233.
23. Rear-Adm. Henry E.Eccles, US Navy, notes of 20 Jan 1972. I am grateful to Prof. John Hattendorf for bringing this to my attention.
24. Cited and discussed in Ranft and Till (1989), p. 163, and more generally on pp. 159–71.
25. Stansfield Turner (1974).
26. Corbett (1988), p. 91.
27. In a comment on the ideas of Adm. Raymond A.Spruance in Eccles Papers, Naval Historical Collection, Naval War College, Newport, RI.
28. Gorshkov (1979), p. 232.
29. MoD (UK) (1995), p. 235.

30. Stansfield Turner (1977).
31. Tzalel (2000), p. 9, 29; Hiranandani (2000), pp. 127–9.
32. Tzalel (2000), p. 160.
33. Robert W.Herrick quoted in George (1978), p. 84.
34. Reynolds (1998), p. 201 and his article 'The US Fleet in Being Strategy of 1942', produced for the Battle of the Coral Sea 1942 Conference proceedings. Australian National Maritime Museum, Sydney, 1993.
35. Choon Kun Lee, 'Korean Sea Power's Contribution towards National Security' in *Seapower and Korea in the 21st Century* (Seoul: Sejong Institute, 1994), p. 177.
36. Cited in S.Howarth (1991), p. 491.
37. Reason (1998), p. 18.
38. Owens (1995b), p. 4.

CHAPTER 6: SECURING COMMAND OF THE SEA

1. Castex (1994), p. 72.
2. Richmond, Evidence to the Cabinet Sub-Committee on Shipbuilding, 5 Jan. 1921, Cab 16/37, Public Record Office, London.
3. Mahan, quoted in Puleston (1939), p. 294.
4. Mahan, quoted in C.C.Taylor (1920), pp. 234–5.
5. Quoted in Mahan (1892), vol. I, p. 284.
6. Breemer (1993) explores this issue in a most stimulating way.
7. Gorshkov (1979), pp. 98–9.
8. See Creswell (1944), pp. 54–75, for a balanced discussion of this issue.
9. Mahan, quoted in Westcott (1919), pp. 128–9, and Puleston (1939), p. 294.
10. Richmond, book review, *Naval Review* (1933).
11. Corbett (1920–31), vol. I, p. 2.
12. Corbett (1907), vol. I, pp 3–4.
13. Tunstall (1990), p. 173.
14. Quoted Padfield (1999), p. 53.
15. Padfield (1999), p. 139; Syret (1998), p. 46.
16. Ramatuelle, quoted in Rosinski (1977), p. xiii.
17. Corbett (1910), p. 94.
18. Quoted in Rodgers (1937), p. 241.
19. Forage (1991), p. 23.
20. Cited in Tunstall (1990), p. 248; Breemer (1993), pp. 33–7.
21. Mahan (1913), pp. 27, 7, 18; Gorshkov (1979), p. 147.
22. Mitchell (1974), pp. 436–9.
23. Quoted in C.Wilson, *Profit and Power: A Study of England and the Dutch Wars* (London: Longmans, 1957), p. 72.
24. Rodger (1997), pp. 105–6; Jellicoe, quoted in Bacon (1936), p. 247; Tritten (1996), p. 24.
25. Mahan quoted and discussed in Corbett (1988), pp. 128–52.
26. Corbett (1910), p. 250.
27. Mahan quoted in Westcott (1919), p. 156.
28. Cited in A.Lambert (1998), pp. 76–7; Castex (1994), p. 322.
29. Thompson (1991), pp. 15–17, 249–88.
30. Woodward (1992), p. 265.
31. George (1978), p. 93.

32. Gorshkov (1979), p. 224; Adm. Thomas B. Hayward, Chief of Naval Operations, Statement before Seapower Sub-Committee of House Armed Services Committee, 20 Dec. 1979 (HASC Hearings, 1979).
33. Junguis (1979); Friedman (2000b), p. 236ff., has a good discussion of the aerospace dimension of such a campaign.
34. Hiranandani (2000), pp. 120ff., 124, 145–53, provides an excellent account of this conflict.
35. Ibid., p. 127; Tzalel (2000), pp. 53–4.
36. Nott (2002), pp. 294–5.
37. Pokrant (1999b), pp. 55–92.
38. Castex (1994), pp. 111, 228–343.
39. Quoted and discussed in Colomb (1899), pp. 115, 122.
40. Richmond (1953), p. 217.
41. Corbett (1907), vol. I, pp. 329, 475; vol. II, pp. 373–5.
42. Corbett (1988), pp. 212, 226–7.
43. Mahan (1911), pp. 243–4, 295–6.
44. Castex (1994), pp. 345, 338–43.
45. Quoted Steinberg (1965), p. 165.
46. Scheer (1920), p. 25.
47. Ibid., p. 68.
48. German Naval War Order of 4 Aug. 1939, Führer Naval Conferences, MoD Naval Historical Branch Library.
49. Churchill, Aug. 1941, quoted in G. Frere-Cook, *The Attacks on the Tirpitz* (London: Ian Allan, 1973), p. 12.
50. Acworth (1930), p. 12.
51. Reynolds (1993).
52. Ibid.
53. Mahan (1892), vol. I, p. 340; (1911), p. 183.
54. Mahan (1892), vol. II, p. 126; vol. I, p. 339; vol. II, pp. 118–19.
55. Roskill (1962), pp. 48–9.
56. Callender (1924), pp. 253–4.
57. Richmond (1934), p. 163.
58. Pollen (1918), p. 287.
59. Stansfield Turner (1974).
60. Gorshkov (1974), pp. 13, 14–17.
61. For a sample of the debates see Miller and Van Evera (1988).
62. Thatcher (1993), pp. 215, 228.

CHAPTER 7: EXPLOITING COMMAND OF THE SEA

1. The British do use the word ‘maritime’ in that context: MoD (UK) (1995), pp. 70–1.
2. Corbett (1907), vol. I, p. 5.
3. Gorshkov (1979), p. 214.
4. Nimitz (1948).
5. Gray (1992), pp. 236–46.
6. *Planning US General Purpose Forces: The Navy* (Washington, DC: Congressional Budget Office), Dec. 1976, p. 1.
7. Gorshkov (1979), pp. 240 ff.
8. Arthur J. Marder, *From the Dardanelles to Oran* (London: Oxford University Press, 1974), p. 1.

9. Brodie (1965), p. 157.
10. Gorshkov (1979), p. 3.
11. Napoleon, quoted in Brodie (1965), pp. 155–6; quoted in Richmond (1946), p. 117.
12. Quoted in Lt-Col. Michael K. Sheridan, 'The Power Projection of Marines is an Essential Part of Sea Control', *Marine Corps Gazette*, Sept. 1977.
13. Corbett (1920–31), vol. III, p. 7.
14. Callwell (1924), p. 105.
15. Furse (1897), vol. I, pp. 133 ff, 163 ff, 198–9, 296; Aston (1914), p. vii; Lewis (2001).
16. Furse (1897), vol. I, p. 35; Roskill (1954), p. 11; Grenfell (1937), pp. 28–9.
17. Compton Mackenzie, *Gallipoli Memories* (London: Cassell, 1929), pp. 75–6.
18. Richmond (1941).
19. Corbett (1907), vol. I, pp. 218–19. For a recent re-evaluation of this controversy see Stephen Prince, 'British Command and Control in the Falklands Campaign' in *Defence and Security Analysis*, vol. 18 (2002), no. 4.
20. C.F. Aspinall-Oglander, *Military Operations: Gallipoli* (London: Heinemann, 1929), vol. I, p. 222.
21. Nimitz (1948).
22. Lt. Gen. Roy S. Geiger, USMC, 21 Aug. 1946. Comments after the atomic bomb test at Bikini Atoll. My thanks to Professor J. Hattendorf for this.
23. Article in *Morskoj Sbornik*, March 1970.
24. Sears (2001), pp. 6, 9. I am indebted to Col. Gary Anderson, then of the USMC Warfighting Laboratory, for these insights. Furse (1897), pp. 215–19, is an interesting summary.
25. Sears (2001), p. 24.
26. Admiral Louis M. Goldsborough, quoted in Bearss (1995), p. 45.
27. The former name is often used, though the latter is more correct.
28. Paymaster William Keeler, quoted in Mindell (2000), p. 94.
29. Greely (1867), vol. II, p. 131.
30. *Marine Corps Doctrinal Publications* (1999), MDP 1-2, p. 82.
31. *Ibid.*, p. 84.
32. Callwell (1996a), pp. 291–2.
33. Naveh (1997), p. 331.
34. Quoted in Ranft and Till (1989), pp. 190–1, and 187–99 more generally.
35. Much of this material was derived from the excellent 'Fast Attack and Boomers' exhibit at the Smithsonian Museum of American History, Washington, March 2002.
36. Quoted in Grenfell (1937), p. 43.
37. Mahan (1911), pp. 151, 293.
38. Corbett (1907), vol. I, pp. 93–4; Corbett (1988), p. 236.
39. Quoted in Richmond (1930), p. 74.
40. Quoted in D. Woodward (1965), pp. 206–7.
41. Richmond (1930), p. 24.
42. Quoted in Kondapalli (2001), p. 1.
43. Quoted in Marder (1940), p. 65.
44. Furse (1897), vol. I, pp. 322, 343; vol. II, pp. 338–72.
45. See Gatchel (1996) for an interesting and trenchant discussion of all these points.
46. Eisenhower (1948), p. 250.
47. C. Taylor "'The Preseason is Over": Ballistic Missile Defence—The Naval Option', *Seapower*, Oct. 2001, and booklet *Navy Theater Ballistic Missile Defence Underway at Sea*.
48. Memo. by CNO for the Joint Chiefs of Staff on Military Strategy and Posture, 7 December 1953, Ser. 0001250P30. I owe this to Professor John Hattendorf.
49. Gorshkov, quoted in Herrick (1968), p. 95.
50. Cited in C. Wilson (1957), p. 72.
51. Mahan (1890), p. 138.

52. Mahan (1892), vol. II, p. 184.
53. Richmond (1930), p. 56.
54. Syret (1998), pp. 94–7.
55. Corbett (1988), p. 236.
56. Jane (1906), p. 145; Hipper, quoted in Philbin (1971).
57. Gorshkov (1979), p. 101.
58. Lanessan (1903); Harding (1999), p. 56.
59. Corbett (1898), pp. 129–335.
60. Mahan (1890), pp. 132–3.
61. Castex (1929–35), vol. IV, pp. 113–14; 285–344.
62. Gorshkov (1979), p. 120.
63. Tracy (1991), p. 235.
64. Westcott (1919), pp. 16, 18. But see also Mahan (1911), pp. 355–6.
65. Richmond, evidence to Bonar Law Inquiry, 5 Jan. 1921, Cab 16/37, Public Record Office, London; Rosinski (1977), p. 13; Friedman (2001), pp. 89–90.
66. Quoted in Waters (1957).
67. Landersman (1986).
68. Bridge (1907), p. 123; Fisher quoted in Marder (1940), p. 95.
69. Roskill (1954), pp. 10ff.; (1962), pp. 158, 179.
70. Gretton (1964), p. 22.
71. Letter by Captain W.J. Ruher, US Navy, to *Proceedings of the US Naval Institute*, Dec. 1961.
72. Casey-Vine (1995), pp. 326, 342; Jane (1906), p. 174; M.A. Palmer (1988), pp. 24–7.
73. Gretton (1964), p. 22.
74. Grenfell (1937), p. 54.
75. Mahan (1892), vol. II, p. 217.
76. Richmond (1930), p. 65.
77. Quoted in Mahan (1899a), p. 28.
78. P.A. Karber and J.L. Lellenberg, 'The State and Future of US Naval Forces in the North Atlantic' in C. Bertram and J.J. Holst (eds), *New Strategic Factors in the North Atlantic* (Oslo: Universitetsforlaget, 1977), p. 50. See also Nitze (1979), pp. 312–18, 337–82; Friedman (2001), pp. 83–8.

CHAPTER 8: EXPEDITIONARY OPERATIONS

1. MoD (UK) (1999), p. 208.
2. Cited in Paul Adams, 'The Military View of the Empire, 1870–1899: As Seen Through the Journal of the Royal United Services Institute', *Journal of the RUSI*, June (1998).
3. A reference to the British Defence White Paper of 1957's view of the role of the Navy in a general war.
4. Bickel (2001), p. 1.
5. Rudyard Kipling, 'The Widow's Party'.
6. Cited in 'Two Concepts of Sovereignty', *Economist*, Sept. 1999.
7. Y. Sadowski, *The Myth of Global Chaos* (Washington, DC: Brookings Institution, 1998) is an example.
8. Pugh (1994) is an excellent introduction to this subject, fast-changing though it is. See also E. Grove, 'Navies Play Their Part: Peace Support Operations', *Jane's Navy International*, March 1999.
9. Callwell (1996b), p. 23; 'Marines Face Unknown Enemy', *Guardian*, 23 May 2000.

10. *Concepts and Issues '98, Building a Corps for the 21st Century* (Washington, DC: Headquarters, US Marine Corps Programs and Resources Department, 1998), p. 14.
11. Dickens (2001); Crawford and Harper (2001), pp. 168–9. I am grateful to Col. Gary Anderson (USMC) for his views on this.
12. Adm. Sir Jock Slater, 'The Maritime Contribution to Joint Operations', *Journal of the Royal United Services Institute*, Dec. 1998.
13. Griffiths, Haydon and Gimblett (1998), p. 215. See useful chapter in *ibid.* on Canadian PSO. Also Crawford and Harper (2001), pp. 108–9.
14. Cited Hore (2001), p. 59.
15. General Sir Peter de la Billière, *Storm Command* (London: HarperCollins, 1992), pp. 130, 62, 275; Pokrant (1999b), pp. 205–18.
16. I am indebted to Drs Daniel Whiteneck and Ken Gause of the Center for Naval Analyses, Washington, DC, for their help on this.
17. Griffiths, Haydon and Gimblett (1998), p. 223.
18. Bickel (2001), p. 74.
19. Joseph Conrad, *Heart of Darkness* (London: Penguin, 1978), pp. 20, 51.
20. Furse (1897), vol. I, p. 2.
21. Callwell (1996b), p. 43.
22. Furse (1897), vol. I, p. 107.
23. *Fane's Defence Weekly*, 16 Jan. 2001.
24. *Fane's 's Defence Weekly*, 23 Jan. 2002.
25. Ball (2001); Dickens (2001); Crawford and Harper (2001).
26. *Fane's 's Defence Weekly*, 16 Jan. 2002.
27. Furse (1897), vol. 1, p. 84.
28. Adm. Sir John Woodward, 'UK Maritime Forces: Role and Structure into the 21st Century', in *RUSI Brassey's Defence Yearbook, 1992* (London: Brassey's, 1992), p. 47.
29. Furse (1897), vol. I, pp. 208, 227.
30. Crawford and Harper (2001), pp. 48, 55–6.
31. See Section 3.6.
32. Pokrant (1999b), pp. 146–9; Hiranandani (2000), pp. 127–8.
33. Crawford and Harper (2001), p. 63.
34. Furse (1897), vol. I, p. 35.
35. MoD (UK) (1995), p. 221.
36. McCarthy (2000), p. 15.
37. Pokrant (1999b), pp. 231–57.
38. See Leitenberg (1987), but also Tunander (2003), for an alternative explanation.
39. Dickens (2001).
40. Captain Wayne Hughes, 'How to Take the Small Boat Threat Seriously', paper in Small Boat Workshop of Office of Naval Intelligence, May 2000.
41. Lind (1985), p. 2.
42. Basil Liddell Hart, 'The Value of Amphibious Flexibility and Forces', *Journal of the RUSI*, Nov. (1960).
43. Quoted in 'Britain Sets Limits to Show of Force', *Guardian*, 9 May 2000.
44. I am grateful to Col. J. Michel of the French Marines for this.
45. Hennessy (1997), p. 5. Since the Americans were engaging not merely guerrilla forces, but also the North Vietnamese main army, it should not be assumed that the Army was 'wrong' and the US Marines were 'right' about this.
46. Lind (1985), pp. 1–3.
47. Peter Boyer, 'A Different War', *New Yorker*, 1 July 2002.
48. 'British Troops Face Tough Winter in Bosnia', *Guardian*, 20 Nov. 1993.
49. Captain Brunton, cited in Hore (2001), p. 41.

50. Lee Willett, 'The Royal Navy, TLAM and British Strategic Planning' in Till (2001), p. 74; *Navy International* special report, Sep. 2001.
51. *Washington Post*, Report, 2 Dec. 2001.
52. Keegan (1988), p. 47.
53. For the background, see Stephen Roskill, *Naval Policy Between the Wars* (London: Collins, 1968), vol. I, pp. 131–80, esp. pp. 165–9.
54. E.M. Spiers, 'Wars of Intervention: A Case Study—The Reconquest of the Sudan 1896–9', SCSI Occasional Papers no. 32, Camberley.
55. Col. A. Hunter, quoted in *ibid.*, p. 15; King, cited by Scott Truver, 'Military Sealift Command', *Fane's Navy International*, Jan. (2002).
56. Callwell (1996b), p. 65. See also Van Creveld (1977) and Thompson (1991).
57. Bin *et al* (1998), p. 71.
58. Quoted in Scott Truver, 'Military Sealift Command', *Fane's Navy International*, Jan. (2002).
59. I am grateful to Major-General Rob Fry, Royal Marines, for this thought.
60. Dickens (2001).
61. Callwell (1996b), p. 23.
62. Sondhaus (2001), pp. 7–8, 'Marines Sent in to Burn World's Finest Cannabis', *Guardian*, 8 Dec. 1998.
63. Pugh (1994), p. 66.
64. Griffiths, Haydon and Gimblett (1998), pp. 215–18.
65. Now Bull Point near Plymouth, Devon.

CHAPTER 9: NAVAL DIPLOMACY

1. [B.] Jowett, *Thucydides Translated into English* (Oxford: Clarendon, 1900), Bk vi, line 47.
2. Mahan (1902), p. 143.
3. Quoted in Graham (1978), p. 415.
4. Mahan (1899b), p. 463.
5. Stansfield Turner (1974).
6. Gorshkov (1979), p. 248.
7. Dalton (1994), p. 2.
8. For contemporary treatment of these issues see Freedman (1998), esp. pp. 15–36.
9. Howe (1971) and Dismukes and McConnell (1979) are good examples. Blechman and Kaplan (1978) and Zelikow (1984) usefully review US Navy experiences.
10. Quoted in Hore (2001), p. 92.
11. Kennedy (1976).
12. Lavery (1998), pp. 94, 303; Gray (1992), pp. 289–90; Cable (1998), pp. 163–7.
13. Quoted in Kondipalli (2001), p. 185.
14. Booth (1977), p. 10.
15. *Ibid.*, p. 96, and Yerxa (1991), p. 31.
16. Cited Puleston (1939), p. 273.
17. *The People's Daily* (PRC), 10 Sep. 2001.
18. Mindell (2000), p. 15.
19. Quoted in Richard Hough, *Fighting Ships* (London: Michael Joseph, 1969), pp. 120–5.
20. Sondhaus (2001), pp. 73, 179.
21. Oman (1991), pp. 185–8.
22. MoD, DEC AWB Memo of Feb. 2001.
23. Cable (1994), p. 62; Friedman (2001), p. 51.

24. I am grateful to Captain Peter Swartz and his colleagues at the Center for Naval Analyses, Washington, for suggestions here.
25. Dalton, Boorda and Mundy (1994), p. 3.
26. See Malcolm H. Murfett, *Hostage on the Yangtze* (Shrewsbury: Airline, 1991).
27. Fisher (1919a), p. 42.
28. Bell (2000), pp. 160–1; Laning (1999), pp. 145, 189.
29. Captain James Burnell-Nugent, *Journal of the RUSI*, Aug. (1998).
30. More valuable points made by Peter Swartz.
31. Pokrant (1999a), pp. 192–5.
32. Friedman (2000b), pp. 310–11.
33. Brooks (1993), p. 24; Tzalel (2000), p. 144; Lerner (2002), pp. 5–98.
34. 'Japan Defiant Over Boat Sinking', *Guardian*, 24 Dec. 2001.
35. Sun Tzu (1971), p. 77.
36. Murfett (1999), p. 82.
37. MoD (UK) (1995), p. 89. Interestingly, the definition is different on p. 204 and again in MoD (UK) (1999), p. 198.
38. Lehman (1988), p. 64.
39. This passage owes much to Stanik (1996).
40. Freedman and Gamba-Stonehouse (1991), *passim*.
41. Perkins (1989), p. 69.
42. Pokrant (1999a), p. 26.
43. *Ibid.*, pp. 26, 27–37, 185–95 and Pokrant (1999b), pp. 265ff.
44. Edmonds (2000), pp. 16–17.
45. General Samuel Smith, quoted in J. Hattendorf 'A Review of Naval Practice', unpub. paper for conference on 'Significance of Seapower in the 21st Century', US Naval War College, Newport, RI, Nov. 2000, p. 11.
46. A. Lambert (1990), pp. 309–25.
47. Padfield (1999), p. 194.
48. Komer (1984); Miller and Van Evera (1988); Weeks (1994).
49. Barbara Starr, 'USA Deploys Carriers, but Doubts Invasion Threat Against Taiwan', *Fane's Defence Weekly*, 20 Mar. 1996; 'East Asia After the Taiwan Crisis', Strategic Comments series, International Institute for Strategic Studies, London, April 1996.
50. Hooker and Waddell (1992), p. 83.
51. Kinney (1985), p. 85.
52. Lord Carrington, *Reflect on Things Past* (London: Collins, 1988), p. 351; Freedman and Gamba-Stonehouse (1991), p. 99.
53. Cable (1979), p. 8.
54. Usefully discussed from a historical perspective in Sondhaus (2001), pp. 225ff.
55. The French submarine FNS *Perle* and others made quite an impression at the magnificent Indian International Fleet Review of 2001.
56. El-Shazly (1998), p. 294.
57. Gary Punch, 'The Future of Australian Sea Power in the New Century' in McCaffrie and Hinge (1998), pp. 111–12.
58. US Department of the Navy, 1998 Posture Statement, p. 2.
59. For an example see the *Taipei Times*, 10 July 2001, and the way in which Chinese, Philippine, South Korean and Indian warships just turned up to watch Taiwan's firing of Patriot missiles!
60. Roth (2001) and discussions with author at the Center for Naval Analyses, Washington, Nov. 2001.
61. Reports: *New York Times*, 6 April 2001, 9 July 2001; *Herald Tribune*, 17 Aug. 2001; *Washington Post*, 27 July 2001.
62. Hill (1988) is a good introduction. See also Sakhuja (2001) for an Indian perspective.

63. I am grateful to Dr Joe Moretz for bringing this episode to my attention. Confidential Monthly Intelligence Report no. 15, 15 July 1920, Richmond MSS, National Maritime Museum, Greenwich.
64. N.Lambert (1998), p. 116.
65. Captain C.A.Silcock, 'UK Operations', in *NATO Broadsheet*, 1999/2000 (London: MoD).
66. 'Entente Cordiale' in *ibid.*; *Halifax Herald* (Canada), 30 Oct. 2001.
67. The Hon. John H.Dalton, 'Navies and World Events in the 21st Century', *Journal of the RUSI*, Oct. (1998).
68. *Philippines Star*, 22 Oct. 2001.
69. *Fane's Defence Weekly*, 6 Nov. 1996.
70. Report on 'HMS Tireless', *Guardian*, 8 May 2001; Pugh (1989).
71. Cable (1998), p. 14.
72. This proposition is argued in Douglas Looney, Robert Schrady and David Porch, 'The Economic Impact of Naval Forward Presence: Benefits, Linkage and Future Prospects as Modified by Trends in Globalisation', a special study at the US Naval Postgraduate School, Monterey, Dec. 2001. See more generally Tangredi (2001b).
73. Letter, 5 Aug. 1920, in B.Ranft (ed.) *The Beatty Papers*, vol. II, (London: Navy Records Society, 1993), p. 97.
74. Lehman (1988), p. 363.
75. Adm. Gene La Roque in George (1978), p. 197.
76. Quoted in J.F.Goode, *The United States and Iran* (Basingstoke: Macmillan, 1997), p. 33.
77. Quotation from various officers on the China Station in Graham (1978), pp. 58, 135 *et seq.*
78. Keynote address to 14th International Seapower Symposium, US Naval War College, Newport, RI, 2–5 Nov. 1997, *Report on Proceedings*, ed. J.Hattendorf (1998), p. 29.
79. Stansfield Turner, quoted in Nathan and Oliver (1979), pp. 72–3.
80. Brooks (1993), p. 2.
81. *Ibid.*, Tangredi (2001b); Benson (2001).

CHAPTER 10: GOOD ORDER AT SEA

1. Dupont (1998), pp. 41–2.
2. 'Fishing For a Future', *Guardian*, 14 Aug. 2000; 'EU Fishing Fleets Devastate Third World', *Guardian*, 16 Mar. 2002.
3. For example see *Bernama News* (Myanmar) 26 June 2001; *Yahoo News* (Philippines) 26 Sep. 2001.
4. T. Gibson (2001).
5. *Economist*, 19 June 1999; *Guardian Weekly*, 6 July 2002.
6. Tracy (1998), p. 233.
7. Politakis (1998), p. 627.
8. 'Al-Qaida Suspected in Tanker explosion', *Guardian*, 1 Oct. 2002; 'Seafarers Want Navy Escort', *Guardian*, 12 Oct. 2002.
9. Allen (1997); 'piracy in South East Asia', Strategic Comments series, International Institute for Strategic Studies, London, June 2000; *Report of International Maritime Bureau for 2001*, Kuala Lumpur; 'Seminar on Terrorism and Piracy at Sea', Seagull (Pune: Indian Maritime Foundation, Aug.-Oct. 2002).
10. Politakis (1998), p. 627; Reagan quoted in John Creighton, *Oil on Troubled Waters: Gulf War, 1980–89* (London: Echoris, 1992), p. 32; O'Rourke (1998).
11. *Newsweek* article, quoted in El-Shazly (1998), p. 268.
12. Cordesman (1990), p. 544; Politakis (1998), p. 567.

13. *South China Morning Post* (PRC), 27 June 2001; *Japan Today* (Japan), 28 Sept. 2001.
14. For the political value of SAR, for example, see *Armed Forces Journal International*. Feb. (2001).
15. For 'Aurora' report see *Guardian*, 16 May 2001; for arming of merchant ships with nuclear cargoes see *Guardian* reports of 11 June 2002, 17 Sept. 2002, and Dupont (1998), p. 37.
16. 'Greenpeace Climbers Board GM Soya Ship', *Guardian*, 26 Feb 2001. For *Aurora* see *Guardian*, 16 May 2001.
17. 'UK Halts Ship After Intelligence Alert', *Guardian*, 22 Dec. 2001; *Daily Telegraph*, 13 Dec. 2001.
18. *Japan Today*, 3 Oct. 2001.
19. US *Union Tribune*, 12 Sept. 2001. I am indebted to Peter Swartz of the Center for Naval Analysis for his views on this.
20. Stewart (2002), pp. 37–8, 74, 171.
21. Kraas (1988); 'US Anti-narcotics Strategy "At War with Reality"', Strategic Comments series, International Institute for Strategic Studies, London, 5 Mar. 2000.
22. *Guardian*, 6 Sept. 2001 and 11 Oct. 2002.
23. For a good review of the European dimension of all this see Pugh (2000).
24. *Guardian*, 30 Aug. 2001.
25. *Fane's Defence Weekly*, 12 Sept. 2001; *Straits Times* (Singapore), 3 July 2002.
26. Stewart (2002).
27. *Ibid.*, pp 173–5, and Cohen (1994).
28. Commonwealth of Australia (1998), vol. II, p. 7.
29. Ballard presentations at Expo 98 Conference, Lisbon. Also 'Evidence Found of Noah's Ark Flood Victims', *Guardian*, 14 Sept. 2001.
30. Prof. Brett Phaneuf of the Institute of Nautical Archaeology at Texas University, quoted in 'Divers Looting Sunken D-Day War Graves', *Independent*, 31 Oct. 2000.
31. *Washington Post*, 10 July 2001.
32. *Guardian*, 22 Mar. 2001.
33. Vidigal (1985).
34. Cook and Carleton (2000), p. 3.
35. Kearsley (1991), p. 76.
36. Crickard (1998), p. 338.
37. *Korean Herald*, 15 June 2001, 19 June 2001, 4 Jan. 2002; *South China Morning Post*, 19 June 2001; *Japan Times*, 6 Oct. 2001; *Associated Press Area Network*, 9 July 2001.
38. 'Man is Poisoning the Sea, Say Scientists', *The Times*, 3 Sept. 1999. For the background see Van Dyke *et al* (1993). For IWCO Report see Herr (2000), pp. 44–51.
39. 'Global Warming Sinks Islands', *Guardian*, 13 June 1999.
40. Griffiths, Haydon and Gimblett (1998), p. 369.
41. *Guardian*, 13 July 1999.
42. 'The Exxon Valdez—Stains that Remain', *Economist* 20 May 1999; MoD (UK) (1999), p. 61.
43. 'Sea Burial Set for Japanese Freighter', *Omani Observer*, 20 Feb. 1999; *Straits Times*, 19 Sept. 2001.
44. BBC World News on-line, 24 Aug. 2001.
45. 'Russia Says its Rusting Fleet Could Poison Arctic', *Guardian*, 18 Sept. 2002.
46. 'NATO Blamed for Dead Whales', *Guardian*, 28 Sept. 2002.
47. *Agence France Press*, 27 June 2001; Politi (1997), p. 59.
48. Commonwealth of Australia (1998), vol. II, p. 34; *Sydney Morning Herald*, 23 Feb. 2002.
49. Weir (2001), p. 154.
50. For that remarkable story see McCannon (1998).
51. 'Scientists Fear Waste of Crucial Navy Polar Data', *Guardian*, 23 Aug. 2000.
52. Weir (2001), p. 144.

53. Prins and Stamp (1991), pp. 146–51.
54. Falk (2000), pp. ix, 2; S. Palmer (2000).
55. Bell (2000), p. 164.
56. Commonwealth of Australia (1998), vol. 1, p. 3.
57. 'Opportunities to Make the Arctic a Model', *Arctic Bulletin*, no. 2 (1999).
58. Cook and Carleton (2000), p. 3.
59. Roy-Chaudhury (2000), p. xviii ff.; interview with D.T. Joseph, Director General of Shipping, India, Mumbai, Feb. 2002.
60. 'Maritime Agency All at Sea', *Daily Telegraph*, 4 Apr. 1999.
61. Johnson (1957), p. 368.
62. Ward (1999) is an excellent review of this unique organisation.
63. Interview with Rear-Admiral Mark Bonser, Director-General Coastwatch, Sydney, Jan. 2002.
64. I am grateful to Commodore Tor Nikolaisen, RNorNavy, and Captain E. Le May, Chilean Navy, respectively, for their help in this area.
65. Nien Tsu and Oliver (1988), p. 46.
66. 'Japanese Navy Fires on Spy Ships', *Guardian*, 25 Mar. 99; *Economist*, 2 Sept. 2000. *Japan Times*, 6 Oct. 2001.
67. I am grateful to Captain Bruce Stubbs of the USCG for his advice. See his letter to the *Washington Post*, 1 Dec. 2001. Also Prins and Stamp (1991), p. 32.
68. See Press Release from US State Department and Department of Transportation, 25/6 June 2002.
69. Adm. Thomas H. Collins, quoted *ibid*.
70. Johnson (1957), pp. 57ff., 368; 'Guarding the Green Seas', *Fane's Navy International*, May 1996.

CHAPTER 11: FUTURE SEAPOWER

1. Bill McKibben, 'A Special Moment in History', *Atlantic Monthly*, May 1998, p. 60.
2. Klare (2001).
3. Tangredi (2002), p. 115.
4. *Defending Singapore in the 21st Century*, Ministry of Defence, Singapore, 2000, p. 35.
5. Mahan (1902), p. 144.
6. In P.D. Taylor (2001), p. 10.
7. Howard (2001).
8. Pugh (1994), p. 85.
9. Reijidi Yoshida, *Japan Times*, 6 Oct. 2001.
10. 'EU Fishing Fuels Devastate Third World', *Guardian*, 16 Mar. 2002.
11. Prins and Stamp (1991), p. 144.
12. Adm. Humphry Smith, cited in Marder (1940), pp. 15–16.
13. Report in *China Daily*, 15 Nov. 2001.
14. Myers (2002), p. 10.
15. 'British Ships Join Patrol Off Pakistan', *Guardian*, 11 Dec. 2001.
16. 'Al-Qaida Suspected in Tanker Explosion', *Guardian*, 1 Oct. 2002.
17. *Sydney Morning Herald*, 19 Jan. 2002.
18. *Washington Post*, 2 Dec. 2001, but see also 'A Quarter of US Bombs Missed Target in Afghan Conflict', *Guardian*, 10 Apr. 2002.
19. 'Sea Safety for Smooth Trade Underscored', *Bangladesh News Today*, 2 Nov. 2002.
20. Mahan (1902), pp. 177–8; Sumida (1997), pp. xii, 84.

21. Haas (1997).
22. Tangredi (2001b), p. 485.
23. Pugh (1994), ch. 4.
24. Ibid., pp. 220, 228–30 ff.
25. *Asian Wall Street Journal*, 19 Jan. 2001.
26. An argument advanced by Captain Thomas Fedyszn, US Navy (Rtd), at Expo Naval Conference, Chile, Dec. 2002.
27. BBC News on-line (UK), 4 Feb. 2002; *Fane's Defence Weekly*, 19 Dec. 2001.
28. Ministry of Defence, Singapore (2000), p. 37.
29. David Lim, interviewed in *Fane's Defence Weekly*, 21 June 2001.
30. Pugh (1994), p. 85.
31. Ibid., p. 237.
32. *Catalogo de la Industria de la Defensa en Chile* (Chile: Ministerio de Defensa Nacional, 2002), p. 7. See also Vidigal (1985).
33. Dalton (1998).
34. See the chapter by Anand in Van Dyke *et al* (1993).
35. Letter of 8 April, emphasis in original: Fisher (1919a), p. 197.
36. Pugh (1994), p. 218.
37. Johnson (1957), p. 571.
38. Ibid., p. 566.
39. Commission Report, p. 39, cited and discussed in Herr (2000), pp. 44–51.
40. UNCLOS, part ix, section 2, articles 136, 137.1, 137.2, discussed by Gwyn Prins in Flanagan *et al* (2001), p. 554.
41. Prins and Stamp (1991), p. 144.
42. See Chapter 10, Section entitled 'Threatening Cargoes'.
43. *New York Times*, 10 June 2003, 'Japan, Citing Security Concerns, Detains North Korean Ships'.
44. Hattendorf (1998), p. 63; Haydon and Griffiths (1995), pp. 62–3.
45. D.P. O'Connell (1975); Grove (2000), pp. 94–115.
46. In Flanagan *et al* (2001), p. 505.
47. Mahan (1899a), p. 142.
48. Corbett (1988), p. 316.

Bibliography

(SEMI-)OFFICIAL CONTEMPORARY DOCUMENTS

- Armada de Chile (Chilean Navy) (n.d.) *Armada de Chile...de todos los chilenos* (Valparaiso, Chile: Chilean Navy).
- Australian Maritime Doctrine* (2000) (Canberra: Defence Publishing Service).
- Casey-Vine, Paula (ed.) (1995) *Oman in History* (London: Immel Publishing for Ministry of Information, Sultanate of Oman).
- Commonwealth of Australia (1998) *Australia's Oceans Policy: Caring, Understanding, Using Wisely* (2 vols, Canberra: Environment Australia).
- Dalton, Hon.J.H., Boorda, Adm.J.M. and Mundy, Gen.C.E. (1994) 'Forward...From the Sea: US Naval Institute Proceedings', *Marine Corps Gazette*, Oct.
- England, Gordon (Secretary of the Navy), Clark, Adm. Vernon (Chief of Naval Operations) and Jones, Gen. James L. (Commandant of the Marine Corps) (2002) *Naval Power 21 ... A Naval Vision* (Washington, DC: Department of Navy).
- Franks, Rt. Hon. the Lord (1983) *Falklands Islands Review: Report of a Committee of Privy Counsellors* (London: HMSO).
- Krupp, Maj.-Gen.K.T. (n.d.) *Operational Manoeuvres* (Quantico, VA: US Marine Corps Doctrine Division).
- Krupp, Maj.-Gen.K.T. (1999) *Naval Amphibious Warfare Plan: Decisive Power from the Sea* (Washington, DC: Dept. of the Navy).
- Marine Corps Association (1996) 'Operational Maneuver From the Sea: A Concept for the Projection of Naval Power Ashore', *Marine Corps Gazette*, June.
- Marine Corps Doctrinal Publications* (1999) especially *MCDP 1-1 Strategy, MCDP 1-2 Campaigning, and MCDP 3 Expeditionary Operations*, Quantico, VA: Marine Corps Doctrine Division.
- Ministry of Defence, Singapore (2000) *Defending Singapore in the 21st Century* (Singapore: Ministry of Defence).
- MoD (UK) (1995) *The Fundamentals of British Maritime Doctrine* (BR 1806) (London: HMSO).
- MoD (UK) (1998) *Peace Support Operations: Joint Warfare Publication 3-50* (Northwood, Middlesex: Permanent Joint Force Headquarters).
- MoD (UK) (1999) *UK Doctrine for Joint and Multinational Operations (UKOPSDOC) FWP 0-10* (Shrivenham: Joint Doctrine and Concepts Centre), Sept.
- MoD (UK) (2001) *British Defence Doctrine. FWP 0-01* (Shrivenham: Joint Doctrine and Concepts Centre), Oct.
- Nimitz, C.W. (1948) *Report to the Secretary of the Navy, 1947* (London and New York: Brassey's Naval Annual).
- O'Keefe, Hon. Sean C., Kelso, Adm. Frank B. and Mundy, General C.E., (1992) 'From the Sea: A New Direction for the Naval Services', *Marine Corps Gazette*, Nov.

- Oman (1991) Ministry of National Heritage and Culture, Sultanate of Oman, *Oman: A Seafaring Nation* (Muscat).
- Rhodes, J.E. (n.d.) *United States Marine Corps Warfighting Concepts for the 21st Century* (Quantico, VA: Marine Corps Combat Development Command).
- Scales, Maj.-Gen. Robert H., Jr (Cmdt US Army War College) (1999) *America's Army in Transition: Preparing for War in the Precision Age*, Army Issue Paper no. 3, Fall.
- Stubbs, Capt. Bruce (Director, Operations Capability Directorate), (1998) *21st-Century Hemispheric Maritime Security: A USCG Deepwater Vision* (Washington, DC: US Coastguard Headquarters).
- Stubbs, Capt. Bruce and Truver, Scott C. (2000) *America's Coast Guard: Safeguarding US Maritime Security in the 21st Century* (Washington, DC: US Coastguard Headquarters).
- Watkins, Adm. James (1986) 'The Maritime Strategy', Special Supplement, *Proceedings of the US Naval Institute*, Jan.
- US Naval Doctrine Command (1995) *Multinational Maritime Operations* (Norfolk, VA: Naval Doctrine Command), 12 Oct.
- US Coast Guard (1998) *21st Century Maritime Security: A USCG Deepwater Vision* (Washington, DC: USCG).

BOOKS AND ARTICLES

- Abbott, Adm. Sir Peter (1996) 'The Maritime Component of British and Allied Military Strategy', *Journal of the Royal United Services Institute*, Dec.
- Acworth, B. (1930) *The Navies of Today and Tomorrow* (London: Eyre and Spottiswoode).
- Alam, Cdr Mohd Khursched (1999) 'Maritime Strategy of Bangladesh In the New Millennium', *Bangladesh Institute of International and Strategic Studies (BISS) Journal*, vol. 20, no. 3.
- Allen, Eric (1997) 'Bringing Piracy To Account', *Fane's Navy International*, April.
- Anderson, Bern (1962) *By Sea and By River: The Naval History of the Civil War* (New York: Da Capo Press).
- Antal, John F. (1993) 'Thoughts About Maneuver Warfare' in Richard D. Hooker (ed.) *Maneuver Warfare: An Anthology* (New York: Presidio).
- Aston, Sir George (1911) *Letters on Amphibious Wars* (London: John Murray).
- Aston, Sir George (1914) *Sea, Land and Air Strategy: A Comparison* (London: John Murray).
- Aston, Sir George (1919) *Memorial of a Marine: An Autobiography* (London: John Murray).
- Aver, James E. and Lim, Riohy (2001) 'The Maritime Basis of American Security in East Asia', *US Naval War College Review*, Winter.
- Bacon, Adm. Sir Reginald (1936) *The Life of Fohn Rushworth, Earl Fellicoe* (London: Casell).
- Baer, G. (1994) *One Hundred Years of Sea Power: The US Navy, 1890-1990* (Stanford, CA: Stanford University Press).
- Ball, Desmond (2001) 'Silent Witness: Australian Intelligence and East Timor', *Pacific Review*, vol. 14, no. 1.
- Barnett, Corelli (1991) *Engage The Enemy More Closely: The Royal Navy in the Second World War* (London: Hodder and Stoughton).
- Bateman, Sam (2001) 'Dangerous Water Ahead', *Fane's Defence Weekly*, 28 Mar.
- Baugh, D. (1993) 'Admiral Sir Hubert Richmond and the Objects of Sea Power', in Goldrick and Hattendorf (eds) (1993), pp. 13-49.
- Bearss, Ed. (1995) *River of Lost Opportunities: The Civil War on the James River, 1861-1862* (Lynchbury, VA: ME Howard).

- Beeching, Jack (1975) *The Chinese Opium Wars* (London: Hutchinson).
- Bell, Christopher M. (2000) *The Royal Navy: Seapower and Strategy Between the Wars* (Basingstoke: Macmillan).
- Benson, Stephen (2001) 'Formative and Operative Engagement' in Flanagan, Frost and Kugler (eds) (2001), pp. 521–45.
- Blass, Eric (2001) 'Missiles On A Cruise', *Armada International*, no. 3.
- Bickel, Keith B. (2001) *Mars Learning: The Marine Corps' Development of Small Wars Doctrine, 1915–1940* (Oxford: Westview).
- Biddle, S. (1996) 'Victory Misunderstood: What the Gulf War Tells Us About the Future of Conflict', *International Security*, vol. 21, no. 2, Fall.
- Bin, Alberto, Hill, Richard and Jones, Arthur (1998) *Desert Storm: A Forgotten War* (London: Praeger).
- Blechman, B.M. and Kaplan, S. (1978) *Force Without War: US Armed Forces as a Political Instrument* (Washington: Brookings Institution).
- Booth, K. (1977) *Navies and Foreign Policy* (London: Croom Helm).
- Borresen, Jacob (1994) 'The Seapower of the Coastal State' in Till, pp. 148–75.
- Borresen, Jacob (2004) 'Coastal Power: The Sea Power of the Coastal State and the Management of Maritime Resources', in Hobson and Kristiansen (forthcoming 2004).
- Boyer, Pellman G. and Wood, Robert S. (1998) *Strategic Transformation and Naval Power in the 21st Century* (Newport, RI: Naval War College Press).
- Bowman, Admiral Frank L. 'Skip', USN (1999) 'Submarines in the New World Order', *Undersea Warfare*, Spring.
- Bremer, J.S. (1993) *The Burden of Trafalgar: Decisive Battle and Naval Strategic Expectations on the Eve of the First World War* (Newport, RI: Naval College Press).
- Bremer, J.S. (1994) 'Naval Strategy is Dead', *Proceeding of the US Naval Institute*, vol. 120, no. 2, Feb.
- Bridge, Adm. Sir Cyprian (1907) *The Art of Naval Warfare* (London: Smith, Elder).
- Bridge, Adm. Sir Cyprian (1910) *Sea Power and Other Studies* (London: Smith, Elder).
- Brodie, B. (1965) *A Guide to Naval Strategy* (New York: Praeger).
- Brooks, Linton F. (1993) *Peacetime Influence: Through Forward Naval Presence* (Alex., VA: Center for Naval Analyses).
- Cable, J. (1979) *The Royal Navy and the Siege of Bilbao* (Cambridge: Cambridge University Press).
- Cable, J. (1994) *Gunboat Diplomacy, 1919–1979: Political Applications of Limited Naval Force*, 3rd edn (Basingstoke: Macmillan).
- Cable, J. (1998) *The Political Influence of Naval Force in History* (Basingstoke: Macmillan).
- Callender, G. (1924) *The Naval Side of British History* (London: Christopher).
- Callwell, Charles E. (1897) *The Effect of Maritime Command on Land Campaigns Since Waterloo* (London: Blackwood).
- Callwell, Charles E. (1924) *The Dardanelles* (London: Constable).
- Callwell, Charles E. (1996a) *Military Operations and Maritime Preponderance: Their Relations and Interdependence* (Annapolis, MD: Naval Institute Press).
- Callwell, Charles E. (1996b) *Small Wars: Their Principles and Practice* (London: University of Nebraska Press).
- Castex, Adm. R. (1929–35) *Theories Stratégiques* (5 vols, Paris: Société d'Éditions). Castex, Adm. R. (1994) *Strategic Theories*, ed. Eugenia Kiesling (Annapolis, MD: Naval Institute Press).
- Cebrowski, Vice-Adm. Arthur K. and Gartska, John J. (1998) 'Network Centric Warfare: Its Origin and Future', *Proceedings of the US Naval Institute*, Jan.
- Childers, Erskine (1935) *The Riddle of the Sands* (London: Sigdwick and Jackson).
- Clemins, Adm. Archie (1999) 'Interview with CINCPACFLT', *Undersea Warfare*, Summer.
- Clerk, John (1790) *Essay on Naval Tactics* (London: Cadell). First published 1782.

- Cohen, Stuart A. (1994) 'Imperial Policing Against Immigration: The Royal Navy and Palestine, 1945–8', *Journal of Imperial and Commonwealth History*, May.
- Colomb, P. (1899) *Naval Warfare* (London: Allen).
- Cook, Peter J. and Carleton, Chris (2000) *Continental Shelf Limits: The Scientific and Legal Interface* (Oxford: Oxford University Press).
- Coquinot, J.P. (1997) *Submarines On Loose Leash: Countermeasures*, Armada International, no. 2.
- Corbett, Sir Julian (1904) *England in the Mediterranean* (2 vols, London: Longmans, Green).
- Corbett, Sir Julian (ed.) (1905) *Fighting Instructions, 1530–1816* (London: Navy Records Society).
- Corbett, Sir Julian (1907) *England in the Seven Years War* (2 vols, London: Longmans, Green).
- Corbett, Sir Julian (1910) *The Campaign of Trafalgar* (London: Longmans, Green).
- Corbett, Sir Julian (1914) *Maritime Operations in the Russo-Japanese War, 1904–5* (2 vols, London: Admiralty War Staff).
- Corbett, Sir Julian (1917) *Drake and the Tudor Navy* (2 vols, London: Longmans).
- Corbett, Sir Julian (1920–31) *History of the Great War: Naval Operations* (5 vols (last two by Sir Henry Newbold) London: Longmans, Green).
- Corbett, Sir Julian (1988) *Some Principles of Maritime Strategy*, with an introduction by Eric Grove (Annapolis, MD: Naval Institute Press). First published 1911.
- Cordesman, Anthony H. (1990) *The Lessons of Modern War: The Iran-Iraq War* (Oxford: Westview).
- Coté, Owen R. (1999) 'Mobile Targets from Under the Sea', MIT Security Studies Program, Conference Series, Cambridge, MA.
- Coté, Owen R. (2001) 'Assuring Access and Projecting Power: The Navy in the New Security Environment', MIT Security Studies Program, Conference Series, Cambridge, MA.
- Coulter, Daniel and Goldman, A. (1998) 'Global Shipping Trends and Implications for Navies' in Crickard (1998), pp. 22–3.
- Cozens, Peter (ed.) (1996) *A Maritime Nation: New Zealand's Maritime Environment and Security* (Wellington: Centre for Strategic Studies, Victoria University of Wellington).
- Crawford, John and Harper, Glyn (2001) *Operation East Timor: The New Zealand Defence Force in East Timor, 1999–2001* (Auckland: Reed).
- Creswell, Cdr John (1944) *Naval Warfare: An Introductory Study* (London: Sampson, Low, Marston).
- Crickard, Fred W., Deveaux, Fred and Orr, Katherine D. (1998) *Multinational Naval Cooperation and Foreign Policy into the 21st Century* (Aldershot: Ashgate).
- Crowe, Admiral William J. with David Chanoff (1993) *The Line of Fire* (New York: Simon & Schuster).
- CSCAP (2001) *CSCAP Memorandum No. 5: Cooperation for and Order at Sea*, Council for Security Cooperation in the Asian Pacific, Feb.
- Cunliffe, B. (2001) *Facing the Ocean* (Oxford: Oxford University Press).
- Dalpech, Mme Thérèse (2001) 'The Perfect War—A View From France', *World Defense Systems* (London: RUSI).
- Dalton, Hon. J.H. (1998) 'Navies and World Events in the 21st Century', *Journal of the Royal United Services Institute*, Oct.
- Daniel, C.F., Hayes, Bradd C. and de Jonge, Chambal (1999) *Coercive Inducement and the Containment of International Crises* (Washington, DC: United States Institute of Peace Press).
- Dash, Mike (2001) *Batavia's Graveyard* (New York: Crown).
- De Souza, Philip (2001) *Seafaring and Civilisations: Maritime Perspectives on World History* (London: Profile).
- Deng, Gang (1997) *Chinese Maritime Activities and Socioeconomic Development c. 2100BC–1900AD* (Westport, CT: Greenwood).
- Dickens, David (2001) 'The United Nations—East Timor: Intervention at the Military Operational Level', *Contemporary Southeast Asia*, vol. 32, no. 2, Aug.
- Dibb, Paul (2000) 'Strategic Trends in the Asia-Pacific Region', in Taylor (ed.) (2001).

- Dillon, Dana (2000) 'Piracy in Asia: A Growing Barrier to Trade', The Heritage Foundation, Washington, DC, 22 June.
- Dismukes, Bradford and McConnell, James M. (1979) *Soviet Naval Diplomacy* (New York: Pergamon).
- Dorman, Andrew, Smith, Michael Lawrence and Uttley, Matthew (eds) (1999) *The Changing Face of Maritime Power* (Basingstoke: Macmillan).
- Dupont, Alan (1998) *The Environment and Security in Pacific Asia*, Adelphi Paper no. 319. (London: Institute for Strategic Studies).
- Durch, William J. (1997) *UN Peacekeeping, American Policy and the Uncivil Wars of the 1990s* (Basingstoke: Macmillan).
- East Asian Strategic Review 2001* (2001) (Japan: Institute for Defence Studies).
- Edgerton, David (1991) *England and the Aeroplane: An Essay on a Militant and Technological Nation* (Basingstoke: Macmillan).
- Edmonds, Martin (2000) *Defence Diplomacy and Preventative Diplomacy*, Bailrigg Memo, no. 34 (Lancaster: Centre for Defence and International Security Studies).
- Edmonds, Martin (2001) *100 Years in the Trade: Royal Naval Submarines, Past, Present and Future* (Lancaster: Centre for Defence and International Security Studies).
- Eisenhower, Dwight D. (1948) *Crusade in Europe* (New York: Doubleday).
- El-Shazly, Nadia (1998) *Gulf Tanker War: Iran and Iraq's Maritime Swordplay* (Basingstoke: Macmillan).
- Erickson, John (1997) 'The Development of Soviet Military Doctrine: The Significance of Operational Art and the Emergence of Deep Battle' in J. Gooch (ed.) *The Origins of Contemporary Doctrine*, Strategic and Combat Studies Institute Occasional Paper, no. 30 (Camberley: SCSIO).
- Evans, David C. (2001) 'Japanese Naval Construction 1878–1918' in O'Brien (2001), pp. 22–35.
- Evans, David C. and Peattie, Mark R. (1997) *Kaigun: Strategy, Tactics and Technology in the Imperial Japanese Navy, 1887–1941* (Annapolis, MD: Naval Institute Press).
- Evans, Michael (2001a) *Australia and the Revolution in Military Affairs*. Land Warfare Studies Centre Working Paper no. 115 (Duntroon, ACT: LWSC).
- Evans, Michael (2001b) *From Deakin to Dibb: The Army and the Making of Australian Strategy in the 20th Century*. Land Warfare Studies Centre Working Paper no. 113 (Duntroon, ACT: LWSC).
- Falk, Kevin L. (2000) *Why Nations Put to Sea: Technology and the Changing Character of Sea Power in the Twenty-First Century* (New York: Garland).
- Fisher, Admiral Sir Jacky (1919a) *Memories* (London: Hodder & Stoughton).
- Fisher, Admiral Sir Jacky (1919b) *Records by Admiral of the Fleet Lord Fisher* (London: Hodder & Stoughton).
- Flanagan, Stephen J., Frost, Ellen L. and Kugler, Richard L. (eds) (2001) *Challenges of the Global Century: Report of the Project on Globalization and National Security* (Washington, DC: National Defense University Press).
- Forage, Paul C. (1991) 'The Foundations of Chinese Naval Supremacy in the Twelfth Century' in Jack Sweetman et al. (eds) *New Interpretations: Naval History 10th Symposium* (Annapolis, MD: Naval Institute Press), pp. 3–28.
- Franklin, G. (2003) *The Development of Britain's Anti-Submarine Capability 1919–1939* (London: Frank Cass).
- Franks, Rt Hon. the Lord (1983) *Falklands Islands Review: Report of a Committee of Privy Counsellors* (London: HMSO).
- Fraser, Stewart (1997) *Littoral Warfare and Joint Maritime Operations: UK Approaches and Capabilities*, Bailrigg Memorandum no. 32 (Lancaster: Centre for Defence and International Security Studies).
- Freedman, L. (1998) *Strategic Coercion: Concepts and Cases* (Oxford: Oxford University Press).

- Freedman, L. and Gamba-Stonehouse, V. (1991) *Signals of War: The Falklands Conflict of 1982* (Princeton, NJ: Princeton University Press).
- Friedman, Norman (1995) 'Littoral Anti-Submarine Warfare', *International Defence Review*, no. 6.
- Friedman, Norman (2000a) *Fifty Year War: Conflict and Strategy in the Cold War* (London: Chatham).
- Friedman, Norman (2000b) *Seapower and Space: From the Dawn of the Missile Age to Net-Centric Warfare* (London: Chatham).
- Friedman, Norman (2001) *Seapower as Strategy: Navies and National Interests* (Annapolis, MD: Naval Institute Press).
- Fry, Brig. Robert (1997) 'Myths of Manoeuvre', *Journal of the Royal United Services Institute*, Dec.
- Fukuyama, Francis (1989) 'The End of History', *National Interest*, Summer.
- Furse, Gl. G.A. (1897) *Military Expeditions Beyond the Seas* (2 vols, London: William Clowes).
- Gaffney, H.H. et al (2000) *US Naval Responses to Situations 1970–1999* (Washington, DC: Center for Naval Analyses). Unclassified mini report of a classified original.
- Gatchell, Theodore L. (1996) *At the Water's Edge: Defending Against the Modern Amphibious Assault* (Annapolis, MD: Naval Institute Press).
- George, J.L. (ed.) (1978) *Problems of Sea Power as We Approach the Twenty-First Century* (Washington, DC: American Enterprise Institute).
- Ghosi, J. (2001) 'Revising Gunboat Diplomacy: An Instrument of Threat or Use of Limited Naval Force', *Strategic Analysis* (Institute For Defence Studies and Analyses, Delhi) Feb.
- Giambastian, Vice-Adm. Edmund (Deputy Chief of Naval Operations, Resources, Requirements and Assessments) (2001) 'An Investment Portfolio For the Navy After Next', *Seapower*, April.
- Gibson, Andrew E. (1992) 'After the Storm', *Naval War College Review*, Summer.
- Gibson, Lt-Cdr Trevor (2001) 'The One That Didn't Get Away', *Journal of the Australian Naval Institute*, Autumn-Winter.
- Goldrick, J. (1997) *No Easy Answers: The Development of the Navies of India, Pakistan, Bangladesh and Sri Lanka, 1945–1996* (New Delhi: Lancers).
- Goldrick, J. (2001) 'A Fleet not a Navy: Some Thoughts on the Themes', in David Stevens and John Reeve (eds), *Southern Trident: Strategy, History and the Rise of Australian Naval Power* (Crow's Nest, NSW: Allen & Unwin, 2001), pp. 291–6.
- Goldrick, J. and Hattendorf, J. (eds) (1993) *Mahan is Not Enough: The Proceedings of a Conference on the Works of Sir Julian Corbett and Admiral Sir Herbert Richmond* (Newport, RI: Naval War College Press).
- Gongora, Thierry and von Riekhoff, Harald (eds) (2000) *Toward a Revolution in Military Affairs* (London: Greenwood).
- Gordon, Andrew (1996) *The Rules of the Game: Jutland and British Naval Command* (London: John Murray).
- Gorshkov, Sergei (1974) *Navies in War and Peace (Red Star Rising at Sea)* (Annapolis, MD: Naval Institute Press).
- Gorshkov, Sergei (1979) *The Seapower of the State* (London: Pergamon).
- Graham, G.S. (1978) *The China Station* (Oxford: Clarendon).
- Gray, Colin S. (1992) *The Leverage of Sea Power: The Strategic Advantage of Navies in War* (New York: Free Press).
- Gray, Colin S. (1999) *Modern Strategy* (Oxford: Oxford University Press).
- Gray, Colin S. and Barnett, Roger W. (eds) (1989) *Seapower and Strategy* (Annapolis, MD: Naval Institute Press).
- Gray, Colin S. and Sloan, Geoffrey (eds) (1999) *Geopolitics: Geography and Strategy* (London: Frank Cass).
- Greely, Horace (1867) *The American Conflict: A History of the Great Rebellion* (2 vols, Hartford, CT: O.D. Case).
- Grenfell, R. (1937) *The Art of the Admiral* (London: Faber).
- Gretton, Adm. Sir Peter (1964) *Maritime Strategy* (London: Cassell).

- Griffiths, Ann L. and Haydon, Peter T. (1995) *Maritime Forces in Global Security* (Halifax, NS: Dalhousie University, Centre for Foreign Policy Studies).
- Griffiths, Ann L., Haydon, Peter T. and Gimblett, Richard H. (1998) *Canadian Gunboat Diplomacy: The Canadian Navy and Foreign Policy* (Halifax, NS: Dalhousie University, Centre for Foreign Policy Studies).
- Grove, E., (1990) *The Future of Seapower* (London: Routledge).
- Grove, E. (1996) 'From Shackle To Springboard: Birth of a Doctrine', *Fane's Navy International*, March.
- Grove, E. (2000) *The Price of Disobedience: The Battle of the River Plate Reconsidered* (Stroud: Sutton).
- Gruber, David J. (2000) 'Computer Networks and Information Warfare: Implications for Military Operations', Maxwell Air Force Base Occasional Paper no. 17, July.
- Haas, Richard N. (1997) *The Reluctant Sheriff: The United States After the Cold War* (New York: Council on Foreign Relations).
- Handel, Michael, I. (2001) *Masters of War: Classical Strategic Thought* (3rd edn, London: Frank Cass).
- Harding, Richard (1999) *Seapower and Naval Warfare, 1650–1830* (London: University College Press).
- Hattendorf, John B. (ed.) (1991a) *The Influence of History on Mahan* (Newport, RI: Naval War College Press).
- Hattendorf, John B. (1991b) *Mahan on Naval Strategy* (Annapolis, MD: Naval Institute Press).
- Hattendorf, John B. (1995) *Doing Naval History: Essays Toward Improvement* (Newport, RI: Naval War College Press).
- Hattendorf, John B. (ed.) (1998) *Fourteenth International Seapower Symposium: Proceedings, 1997* (Newport, RI: Naval War College Press).
- Hattendorf, John B. and Jordan, Robert S. (eds) (1989) *Maritime Strategy and the Balance of Power* (Basingstoke: Macmillan).
- Hattendorf, John B., Simpson, B. Mitchell and Wadleigh, John (eds) (1984) *Sailors and Scholars: The Centennial History of the US Naval War College* (Newport, RI: Naval War College Press).
- Haydon, Peter T. (1998) *Navies in the Post Cold War Era* (Halifax: Dalhousie University, Centre for Foreign Policy Studies).
- Haydon, Peter T. (2000) *Sea Power and Maritime Strategy in the 21st Century* (Halifax, NS: Dalhousie University, Centre for Foreign Policy Studies).
- Haydon, Peter T. and Griffiths, Ann L. (eds) (1995) *Multinational Naval Forces* (Halifax, NS: Dalhousie University, Centre for Foreign Policy Studies).
- Hegmann, R. (1991) 'Reconsidering the Evolution of the US Maritime Strategy, 1955–65', *Journal of Strategic Studies*, vol. 14, no. 3.
- Hennessy, Michael A. (1997) *Strategy in Vietnam: The Marines and Revolutionary Warfare in 1 Corps, 1965–1972* (London: Eurospan Group).
- Herr, R.A. (ed.) (2000) 'Sovereignty at Sea: From Westphalia to Madrid', Wollongong Papers in Maritime Policy no. 11, Centre for Maritime Policy, University of Wollongong.
- Herrick, R.W. (1968) *Soviet Naval Strategy* (Annapolis, MD: Naval Institute Press). Herrick, R.W. (1988) *Soviet Naval Theory and Policy* (Washington, DC: US Government Printing Office).
- Heuser, Beatrice (2002) *Reading Clausewitz* (London: Pimlico).
- Hewish, M. (2000) 'Return of the Big Guns at Sea', *Fane's International Defence Review*, no. 4.
- Hill, Richard (1986) *Maritime Strategy for Medium Powers* (Annapolis, MD: Naval Institute Press).
- Hill, Richard (1988) *Arms Control at Sea* (London: Routledge).
- Hiranandani, Vice-Adm. G.M. (2000) *Transition to Triumph: Indian Navy, 1965–1975* (New Delhi: Lancers).
- Hirschfeld, Thomas J. and Hore, Peter (eds) (1999) *Maritime Aviation: Light and Medium Aircraft Carriers into the Twenty-First Century* (Hull: Hull University Press).

- Hobson, Rolf, and Kristiansen, Tom (2004) *Navies in Northern Waters, 1721–2000* (London: Frank Cass).
- Hooker, Capt. Richard D. and Waddell, Capt. Ricky L. (1992) 'The Future of Conventional Deterrence', *Naval War College Review*, Summer.
- Hore, P. (ed.) (2001) *Seapower Ashore* (London: Chatham).
- Hough, Richard (1994) *Captain James Cook: A Biography* (London: Hodder & Stoughton).
- Howard, Michael (2001) *The Intervention of Peace: Reflections on War and International Order* (New Haven, CT: Yale University Press).
- Howard, Michael and Paret, Peter (ed. and trans.) (1976) *Carl von Clausewitz: On War* (Princeton, NJ: Princeton University Press).
- Howarth, Patrick (1981) *Lifeboat: In Danger's Hour* (London: Hamlyn).
- Howarth, Stephen (1991) *The Shining Sea: A History of the United States Navy, 1775–1991* (London: Weidenfeld & Nicolson).
- Howe, J.T. (1971) *Multicrisis* (Cambridge, MA: MIT Press).
- Hughes, Wayne (1991) 'Mahan, Tactics and Principles of Strategy' in Hattendorf (1991a), pp. 25–36.
- Hughes, Wayne (1997) 'Naval Maneuver Warfare', *Naval War College Review*, Summer.
- Hughes, Wayne (2000) *Fleet Tactics and Coastal Combat* (Annapolis, MD: Naval Institute Press).
- Hunt, Barry D. (1982) *Sailor-Scholar: Admiral Sir Herbert Richmond, 1871–1946* (Waterloo: Wilfred Laurier Press).
- Hunt, Barry D. (1993) 'Richmond and the Education of the Royal Navy', in Goldrick and Hattendorf (1993).
- Huntingdon, Samuel, P. (1954) 'National Policy and the Transoceanic Navy', *Proceedings of the US Naval Institute*, May.
- Ingram, Edward (2000) *The British Empire as a World Power: Ten Studies* (London: Frank Cass).
- Inskip, Ian (2002) *Ordeal by Exocet: HMS Glamorgan and the Falklands War, 1982* (London: Chatham).
- Irwin, Ash (1993) 'The Levels of War: Operational Art and Campaign Planning', *Strategic and Combat Studies Institute Occasional Paper*, no. 5 (Camberley: SCSi).
- Jane, F.T. (1906) *Heresies of Sea Power* (London: Longmans).
- Johnson, Robert Erwin (1957) *Guardians of the Sea: History of the United States Coast Guard, 1915 to the Present* (Annapolis, MD: Naval Institute Press).
- Jungius, Adm. Sir James (1979) 'The Balance of Power at Sea', *NATO Review*, Dec.
- Kane, Thomas M. (2002) *Chinese Grand Strategy and Maritime Power* (London: Frank Cass).
- Kearsley, Harold J. (1991) *Maritime Power and the Twenty-First Century* (Aldershot: Dartmouth).
- Keegan, J. (1988) *The Price of Admiralty* (London: Hutchinson).
- Kennedy, P.M. (1976) *The Rise and Fall of British Naval Mastery* (London: Allen Lane).
- Kennedy, P.M. (1989) 'The Relevance of the Prewar British and American Maritime Strategies to the First World War and its Aftermath', in Hattendorf and Jordan (1989), pp. 165–88.
- Kinney, Douglas (1985) 'Anglo-Argentinian Diplomacy and the Falklands Crisis', in Alberto Coll and Anthony C. Arend, *Lessons for Strategy, Diplomacy and International Law* (London: George Allen & Unwin).
- Kirkpatrick, David (2001) 'Revolutions in Military Technology and their Consequences', *Journal of the Royal United Services Institute*, Aug.
- Klare, Michael T. (2001) *Resource Wars: The New Landscape of Global Conflict* (New York: Metropolitan).
- Komer, Robert F. (1984) *Maritime Strategy or Coalition Defense?* (Cambridge, MA: Abt).
- Kondapalli, Srikanth (2001) *China's Naval Power* (Delhi: Institute for Defence Studies and Analyses).
- Kraas, Louis (1988) 'The Drugs Trade', *Fortune*, 20 June.
- Krepinevich, Andrew F. (1994) 'Cavalry to Computers: The Pattern of Military Revolution', *National Interest*, no. 37, Fall.

- Lambert, Andrew (1990) *The Crimean War: British Grand Strategy against Russia, 1853–6* (Manchester: Manchester University Press).
- Lambert, Andrew (1998) *The Foundations of Naval History: John Knox Laughton, the Royal Navy and the Historical Profession* (London: Chatham).
- Lambert, Andrew (ed.) (2002) *Letters and Papers of Professor Sir John Knox Laughton, 1830–1915* (Ashgate: Navy Records Society).
- Lambert, N. (1998) *Australia's Naval Inheritance: Imperial Maritime Strategy and the Australia Situation, 1880–1909* (Canberra: Department of Defence (Navy), Maritime Studies Programme).
- Lambert, N. (1999) *Sir John Fisher's Naval Reputation* (Columbia, SC: University of South Carolina Press).
- Landersman, S.D. (1986) 'Naval Protection of Shipping: A Lost Art?', *Naval War College Review*, June.
- Lanessan, J.L.de (1903) *Le Programme Maritime de 1900–1906* (Paris).
- Laning, Adm. Hans (1999) *An Admiral's Yarn*, with introduction by M.R.Shulman (Newport, RI: Naval War College Press).
- Larsen, Col. Randall J. (2001) 'Homeland Defense: State of the Union', *Strategic Review*, Spring.
- Lavery, Brian (1998) *Nelson and the Nile: The Naval War Against Bonaparte, 1798* (London: Chatham).
- Lehman, John F. (1988) *Command of the Seas: Building the 600 Ship Navy* (New York: Charles Scribner).
- Leitenberg, Milton (1987) *Soviet Submarine Operations in Swedish Waters, 1980–1986* (New York: Praeger).
- Leopold, Reuven (1996) 'The Next Naval Revolution', *Fane's 's Navy International*, Jan.-Feb.
- Lerner, Mitchell B. (2002) *The Pueblo Incident: A Spy Ship and the Failure of American Foreign Policy* (Lawrence, KS: Kansas University Press).
- Lewis, Adrian R. (2001) *Omaha Beach: A Flawed Victory* (Chapel Hill, NC, and London: University of North Carolina Press).
- Liddell Hart, B.H. (1967) *Strategy: The Indirect Approach* (London: Faber & Faber).
- Lind, William S. (1985) *Maneuver Warfare Handbook* (Boulder, CO: Westview).
- Lindberg, Michael (1998) *Geographical Impact on Coastal Defence Navies: The Entwining of Force Structure, Technology and Operational Environment* (Basingstoke: Macmillan).
- Lindberg, Michael and Todd, Daniel (2002) *Brown-, Green- and Blue-Water Fleets: The Influence of Geography on Naval Warfare, 1861 to the Present* (Westpoint, CT: Praeger).
- Link, Charles D. (1996) '21st Century Armed Forces—Joint Vision 2010', *Joint Services Quarterly*, Autumn.
- Livezey, William E. (1981) *Mahan on Sea Power* (Norman, OK: University of Oklahoma Press).
- Loughran, Rear-Adm.T. (1996) 'Projecting Power From the Sea: The Royal Navy's Contribution to the Air Battle', *Journal of the Royal United Services Institute*, Dec.
- Lovelace, Douglas C. (1997) *The Evolution in Military Affairs* (Carlisle, PA: Strategic Studies Institute, US Army War College).
- Luttwak, Edward N. (1975) *The Political Uses of Sea Power* (Baltimore, MD: Johns Hopkins University Press).
- Luttwak, Edward N. (1980–81) 'The Operational Level of War', *International Security*, Winter.
- Mack, Major Alistair (1999) 'Intervention in East Timor—From the Ground', *Journal of the Royal United Services Institute*, Dec.
- Mackenzie, Vice-Adm. Sir Hugh (1995) *The Sword of Damocles* (Gosport: Royal Navy Submarine Museum).
- Mahan, Capt. A.T. (1890) *The Influence of Sea Power upon History, 1660–1783* (London: Sampson, Low, Marston).
- Mahan, Capt. A.T. (1892) *The Influence of Sea Power upon the French Revolution and Empire, 1793–1812*, vol. I (2 vols) (Boston, MA: Little, Brown).

- Mahan, Capt. A.T. (1899a) *Lessons of the War with Spain* (London: Sampson, Low, Marston).
- Mahan, Capt. A.T. (1899b) *The Life of Nelson* (London: Sampson, Low, Marston).
- Mahan, Capt. A.T. (1900) *The Problem of Asia and its Effect upon International Policies* (London: Sampson, Low, Marston).
- Mahan, Capt. A.T. (1902) *Retrospect and Prospect* (London: Sampson, Low, Marston).
- Mahan, Capt. A.T. (1911) *Naval Strategy: Compared and Contrasted with the Principles and Practice of Military Operations on Land* (Boston, MA: Little, Brown).
- Mahan, Capt. A.T. (1913) *Major Operations of the Navies in the War of American Independence* (London: Sampson, Low, Marston).
- Mahapatra, Chintamani (1996) 'Cooperative Efforts in the Indian Ocean Region', Working Paper no. 2, (Canberra, ACT: Strategic and Defence Studies Centre).
- Makarov, Vice-Adm. Stephan O. (1990) *Discussion of Questions in Naval Tactics*, trans. J.B. Bernadov (Annapolis, MD: Naval Institute Press).
- Marder, Arthur J. (1940) *The Anatomy of British Sea Power* (reprint, London: Frank Cass, 1972).
- Marolda, Edward J. and Schneller, Robert J. Jr (1998) *Shield and Sword: The United States Navy and the Persian Gulf War* (Washington, DC: Naval Historical Center).
- Martin, David G. (1992) *The Peninsula Campaign, March-July 1862* (Conshohocken, PA: Combined Books).
- Martin, L. (1967) *The Sea in Modern Strategy* (London: Chatto & Windus).
- Matheson, P.E. and E.F. (eds) (1964) *Francis Bacon (Selections)* (Oxford: Clarendon).
- McCaffrie, Jack and Hinge, Alan (1998) *Sea Power in the New Century* (Canberra, ACT: Strategic and Defence Studies Centre).
- McCannon, John (1998) *Red Arctic: Polar Exploration and the Myth of the North in the Soviet Union, 1932-1939* (New York: Oxford University Press).
- McCarthy, William J. (2000) 'Directed Energy and Fleet Defense Implications for Naval Warfare', Maxwell Air Force Base Occasional Paper no. 10, Alabama.
- McKercher, B.J.C. and Hennessy, M. (1996) *The Operational Art: Developments in the Themes of War* (London: Praeger).
- Menon, Rear-Adm. Raja (1998) *Maritime Strategy and Continental Wars* (London: Frank Cass).
- Menzies, G. (2002) *1421: The Year China Discovered the World* (London: Bantam Press).
- Michaels, G.J. (1998) *Tip of the Spear: US Marine Light Armour in the Gulf War* (Annapolis, MD: Naval Institute Press).
- Mies, Adm. Richard W. (1999) 'The SSBN in National Security', *Undersea Warfare*, Fall.
- Miller, Stephen E. and Van Evera, Stephen (1988) *Naval Strategy and National Security* (Princeton, NJ: Princeton University Press).
- Mindell, David A. (2000) *War, Technology and Experience Aboard the USS Monitor* (Baltimore, MA: Johns Hopkins University Press).
- Mitchell, Donald W. (1974) *A History of Russian and Soviet Sea Power* (London: André Deutsch).
- Molyneux, Thomas M. (1759) *Conjunct Expeditions or Expeditions that Have Been Carried on Jointly by the Fleet and Army, with a Commentary on a Littoral War* (London: R. & J. Dodsley).
- Montgomery, Capt. C.P.R. (2002) 'The Royal Navy and Future Joint Operations', *Journal of the Royal United Services Institute*, April.
- Moran, Michael (2001) 'Sacred Cows in the Cross Hairs', MSNBC.com 29 March.
- Moretz, Joseph (2002) *The Royal Navy and the Capital Ship in the Interwar Period* (London: Frank Cass).
- Morgan, John (Captain US Navy) (1998) 'Anti-Submarine Warfare: A Phoenix for the Future', *Undersea Warfare*, Fall.
- Morrissey, Brendan (1997) *Yorktown, 1781* (London: Osprey).
- Murfett, Malcolm H. (1999) 'Gunboat Diplomacy: Outmoded or Back in Vogue', in Dorman et al (1999), pp. 81-93.
- Musashi, Miyamoto (1995) *A Book of Five Rings* (London: HarperCollins).

- Myers, Gen. Richard B. (2002) 'Six Months After: The Imperatives of Operation Enduring Freedom', *Journal of the Royal United Services Institute*, April.
- Nailor, Peter (1988) *The Nassau Connection: The Organisation and Management of the British Polaris Project* (London: HMSO).
- Nathan, J.A. and Oliver, J.K. (1979) *The Future of United States Naval Power* (Urbana, IL: University of Illinois Press).
- Naveh, Shimon (1997) *In Pursuit of Military Excellence* (London: Frank Cass).
- Nien-Tsu, Alfred Hu and Oliver, James K. (1988) 'A Framework for a Small Navy: The 1892 UN Law of the Sea Conference', *Naval War College Review*, Spring.
- Nitze, P.H. (1979) *Securing the Sea* (Boulder, CO: Westview).
- Noer, John H. (1996) 'Southeast Asian Chokepoints: Keeping the Sea Lines of Communications Open', *Strategic Forum*, no. 98, Dec.
- Nott, John (2002) *Here Today, Gone Tomorrow: Recollections of an Errant Politician* (London: Politico).
- Nye, Joseph and Owens, William (1996) 'America's Information Edge', *Foreign Affairs*, March–April.
- O'Brien, P.P. (ed.) (2001) *Technology and Naval Combat in the Twentieth Century and Beyond* (London: Frank Cass).
- O'Connell, D.P. (1975) *The Influence of Law on Sea Power* (Manchester: Manchester University Press).
- O'Connell, Robert L. (1991) *Sacred Vessels: The Cult of the Battleship and the Rise of the US Navy* (Boulder, CO: Westview).
- O'Rourke, Ronald (1998) 'The Tanker War', *Proceedings of the US Naval Institute*, May.
- Osgood, R.E. (1962) *NATO: The Entangling Alliance* (Chicago, IL: Chicago University Press).
- Owens, Adm. William A. (1995a) 'The Emerging System of Systems', *Proceeding of the US Naval Institute*, May.
- Owens, Adm. William A. (1995b) *High Seas: The Naval Passage to an Uncharted World* (Annapolis, MD: Naval Institute Press).
- Padfield, Peter (1999) *Maritime Supremacy and the Opening of the Western Mind* (Woodstock and New York: Overlook Press).
- Palmer, Michael A. (1988) *Origins of the Maritime Strategy: American Naval Strategy in the First Postwar Decade* (Washington, DC: Naval Historical Center).
- Palmer, Sarah (2000) 'Seeing the Sea: The Maritime Strategy in History', Inaugural Lecture Series, University of Greenwich, 11 May.
- Paranjpe, Shrikant (1998) 'India's Security Policy: An Evaluation After Fifty Years' *International Studies* (New Delhi) vol. 35, no. 2.
- Parry, Capt. Chris (1998) 'Maritime Manoeuvre and Joint Operations to 2020', in M.Duffy *et al.* (eds) *European Defence in 2020* (Exeter: University of Exeter).
- Payne, Keith B. (1996) *Deterrence in the Second Nuclear Age* (Lexington, KY: University Press of Kentucky).
- Pengelly, Rupert (1996) 'Grappling for Submarine Supremacy', *Fane's International Defence Review*, no. 7.
- Perkins, J.B. (1989) 'Praying Mantis: The Surface View', *Proceedings of the US Naval Institute*, vol. 114, no. 5.
- Philbin, T. (1971) 'Admiral Franz Hipper on Naval Warfare', *Naval War College Review*, Fall.
- Pokrant, Marvin (1999a) *Desert Shield at Sea: What the Navy Really Did* (Westpoint, CT: Greenwood).
- Pokrant, Marvin (1999b) *Desert Shield at Sea: What the Navy Really Did* (London: Greenwood).
- Politakis, George P. (1998) *Modern Aspects of the Laws of Naval Warfare and Maritime Neutrality* (London: Kegan Paul).
- Politi, Alessandro (1997) *European Society: The New Transnational Risks* (Paris: Institute for Security Studies).

- Pollen, A.H. (1918) *The Navy in Battle* (London: Chatto & Windus).
- Posen, Stephen (2001) *The Strategic Traditions of the United States: The Asia Pacific Region* (Annapolis, MD: Naval War College Press).
- Preston, Antony (1999) 'High Tech on the High Seas', *Armada International*, no. 5.
- Prins, Gwyn and Stamp, Robbie (1991) *Top Guns and Toxic Whales: The Environment and Global Security* (London: Earthscan).
- Pugh, Michael (1989) 'Nuclear Warship Visiting: Storms in Ports', *World Today*, Oct.
- Pugh, Michael (ed.) (1994) *Maritime Security and Peacekeeping: A Framework for United Nations Operations* (Manchester: Manchester University Press).
- Pugh, Michael (2000) 'Europe's Boat People: Maritime Cooperation in the Mediterranean', *Chailot Papers, Institute for Security Studies*, Paris, no. 41.
- Puleston, W.D. (1939) *Mahan: the Life and Works of Alfred Thayer Mahan, USN* (New Haven, CT: Yale University Press).
- Rahman, Chris (2001) 'Naval Cooperation and Coalition Building in Southeast Asia and the Southwest Pacific: Status and Prospect', *HMAS Fairbairn*, Canberra, Oct.
- Rahn, W. (2001) 'German Naval Strategy and Armament, 1919–39', in O'Brien (2001), pp. 109–27.
- Ranft, B. (ed.) (1977) *Technical Change and British Naval Policy, 1860–1939* (London: Hodder & Stoughton).
- Ranft, B. (1993) *The Beatty Papers* (London: Scholar Press).
- Ranft, B. and Till, G. (1989) *The Sea in Soviet Strategy* (Basingstoke: Macmillan).
- Reason, Adm. J.Paul (1998) *Sailing New Seas* (Newport, RI: Naval War College Press).
- Record, Jeffrey (2000) 'Failed States and Casualty Phobia: Implications for Force Structure and Technology Choices', Maxwell Air Force Base Occasional Paper no. 15, Alabama.
- Reeve, John (2001) 'The Rise of Modern Naval Strategy c. 1850–1880' in David Stephens and John Reeve, *Southern Trident: Strategy, History and the Rise of Australian Naval Power* (Crows Nest, Australia: Allen & Unwin).
- Reynolds, Clark G. (1974) *Command of the Seas* (New York: Morrow).
- Reynolds, Clark G. (1993) 'The US Fleet-in-Being Strategy', in *The Battle of the Coral Sea, 1942, Conference Proceedings* (Sydney: Australia National Maritime Museum).
- Reynolds, Clark G. (1998) *Navies in History* (Annapolis, MD: Naval Institute Press).
- Richmond, H.W. (1930) *Naval Warfare* (London: Ernest Benn).
- Richmond, H.W. (1934) *Seapower in the Modern World* (London: Bell).
- Richmond, H.W. (1941) *Amphibious Warfare in British History* (London: Historical Association).
- Richmond, H.W. (1946) *Statesmen and Sea Power* (Oxford: Clarendon).
- Richmond, H.W. (1953) *The Navy as an Instrument of Policy, 1558–1727* (Cambridge: Cambridge University Press).
- Rodger, N.A.M. (1986) *The Wooden World: An Anatomy of the Georgian Navy* (London: Collins).
- Rodger, N.A.M. (ed.) (1996) *Naval Power in the Twentieth Century* (Basingstoke: Macmillan).
- Rodger, N.A.M. (1997) *The Safeguard of the Sea: A Naval History of Britain, vol. I, 1660–1649* (London: HarperCollins).
- Rodger, N.A.M. (1999) 'Weather, Geography and Naval Power in the Age of Sail' in Colin S.Gray and Geoffrey Sloan (eds), *Geopolitics: Geography and Strategy* (London: Frank Cass).
- Rodgers, W.L. (1937) *Greek and Roman Naval Warfare* (Cambridge, MA: Harvard University Press).
- Roksund, Arne (2003) 'The Jeune Ecole: The Strategy of the Weak', in Hobson and Kristiansen (forthcoming 2004).
- Rosinski, H. (1977) 'New Thoughts on Strategy' in B.M.Simpson (ed.), *War, Strategy and Maritime Powers* (New Brunswick, NJ: Rutgers University Press).
- Roskill, Capt. S.W. (1954) *The War at Sea, 1939–1945* (London: HMSO), vol. I.
- Roskill, Capt. S.W. (1962) *The Strategy of Sea Power* (London: Collins).

- Roth, Patrick H. (2001) 'From the Brazil Squadron to US Navy Forward Presence in Latin American Waters', *US Navy Forward Presence Bicentennial Symposium*, 21 June 2001, Naval Historical Center, Washington Navy Yard.
- Roy, Vice-Adm. Mihr K. (1995) *War in the Indian Ocean* (New Dehli: Lancers).
- Roy-Chaudury, Rahul (2000) *India's Maritime Security* (New Dehli: Knowledge World).
- Sakhuja, Vijay (2001) *Confidence Building From the Sea: An Indian Initiative* (New Dehli: Knowledge World).
- Sater, William F. (1991) 'The Rise and Fall of the Chilean Navy 1879–1905' in *New Interpretations: Naval History 10th Symposium* (Annapolis, MD: Naval Institute Press).
- Scales, Maj.-Gen. Robert H., Jr (1999) 'America's Army in Transition: Preparing for War in the Precision Age', Army Issue Paper no. 3, Fall.
- Scheer, Adm. R. (1920) *Germany's High Sea Fleet in the World War* (London: Cassell).
- Schurman, Donald M. (1981) *Julian S. Corbett, 1854–1922* (London: Royal Historical Society).
- Scott, Richard (1999) 'Future Ambition: Charting the Course of CVF', *Fane's Navy International*, May.
- Scott, Richard (2000) 'Project Partners Sail Diverging Courses to New Horizons', *Fane's Navy International Defence Review*, no. 1.
- Sears, Stephen W. (2001) *To The Gates of Richmond: The Peninsula Campaign* (Boston, MA: Houghton Mifflin).
- Semmel, Bernard (1986) *Liberalism and Naval Strategy: Ideology, Intent and Sea Power during the Pax Britannica* (Boston, MA: Allen & Unwin).
- Shekawat, Adm. V.S. (2001) 'Maritime Dimension of India's Security—the Future', *Seagull* (Indian Maritime Foundation, Pune), Aug.-Oct.
- Shulman, Mark Russel (1995) *Navalism and the Emergence of American Sea Power, 1882–1893* (Annapolis, MD: Naval Institute Press).
- Shultz, Richard H. and Pfaltzgraff, Robert L. (2000) *The Role of Naval Forces in 21st Century Operations* (Washington, DC: Brassey's).
- Slade, Stuart (1993) 'Naval Radars and Command Systems' in Friedman, N. (contrib. ed.) *Navies in the Nuclear Age: Warships Since 1945* (London: Conway Maritime).
- Sondhaus, L. (2001) *Naval Warfare, 1815–1914* (London: Routledge).
- Stanik, Joseph T. (1996) *Swift and Effective Retribution: The US Sixth Fleet and the Confrontation with Qaddafi*, US Navy in the Modern World Series (Washington, DC: Naval Historical Center), no. 3.
- Steinberg, J. (1965) *Yesterday's Deterrent: Tirpitz and the Birth of the German Battle Fleet* (London: Macdonald).
- Stevens, David (ed.) (2001) *The Royal Australian Navy* (South Melbourne, Australia: Oxford University Press).
- Stevens, Rear-Adm. Robert (2001) 'The British Submarine Service: Past, Present and Future', *Journal of the Royal United Services Institute*, June.
- Stewart, Cdr Ninian (2002) *The Royal Navy and the Palestinian Patrol* (London: Frank Cass).
- Sumida, Jon Tetsuro (1989) *In Defence of Naval Supremacy: Finance, Technology, and the British Naval Policy* (Boston, MA: Unwin, Hyman).
- Sumida, Jon Tetsuro (1997) *Inventing Grand Strategy and Teaching Command: The Classic Works of Alfred Thayer Mahan Reconsidered* (Baltimore, MD: Johns Hopkins University Press).
- Sumida, Jon Tetsuro (1999) 'Alfred Thayer Mahan, Geopolitician', in Gray and Sloan (1999).
- Sumida, Jon Tetsuro (2000) 'Getting New Insight From Old Books: The Case of Alfred Thayer Mahan', Conference paper, Naval War College, Newport, RI, Nov.
- Sun Tzu (1971) *The Art of War*, trans. and intro. Samuel B. Griffith (Oxford: Oxford University Press).
- Svechin, A.A. (1926) *Strategiia* (Moscow: Voenizdat).

- Swartz, Peter M. (1998) 'A Deep Legacy: Smaller Scale Contingencies and the Forces that Shape the Navy', Center for Naval Analyses, Alexandria, VA, CNAC Abstracts no. CRM 98-95, 10 Dec.
- Synge, Ian (1999) 'Redefining Naval Doctrines', *Fane's Navy International*, Dec.
- Syret, David (1998) *The Royal Navy in European Waters During the American Revolutionary War* (Columbia, SC: University of Southern Carolina Press).
- Tahiliani, Adm. R.H. (1989) 'Maritime Strategy for the Nineties', *Indian Defence Review*, July.
- Tangredi, Capt. Sam J. (2001a) 'Globalisation and Naval Forward Presence: Issues and Insights', Institute for National Strategic Studies, NDU Washington, Global Forum series, vol. 2, no. 1, April.
- Tangredi, Capt. Sam J. (2001b) 'Security from the Ocean', in Flanagan *et al.* (2001), pp. 47-92.
- Tangredi, Capt. Sam J. (2002) 'Sea Power: Theory and Practice' in J.Baylis, Colin Gray, Eliot Cohen and James Wirtz (eds), *Strategy and the Contemporary World* (Oxford: Oxford University Press), pp. 113-36.
- Taylor, C.C. (1920) *The Life of Admiral Mahan, Naval Philosopher* (London: John Murray).
- Taylor, Paul D. (ed.) (2001) *Asia and the Pacific: US Strategic Traditions and Regional Realities* (Newport, RI: Naval War College Press).
- Thatcher, Margaret (1993) *The Downing Street Years* (London: HarperCollins).
- Thompson, Julian (1991) *The Lifeblood of War: Logistics in Armed Conflict* (London: Brassey's).
- Till, Geoffrey (1979) *Airpower and the Royal Navy, 1914-1915* (London: Jane's Publishing).
- Till, Geoffrey (1984) *Maritime Strategy and the Nuclear Age* (Basingstoke: Palgrave Macmillan).
- Till, Geoffrey (ed.) (1994) *Seapower: Theory and Practice* (London: Frank Cass).
- Till, Geoffrey (ed.) (1997) 'Luxury Fleet? The Sea Power of (Soviet) Russia', in Rodger (1997), pp. 14-26.
- Till, Geoffrey (ed.) (2001) *Seapower at the Millennium* (Stroud: Sutton).
- Tracy, Nicholas (1991) *Attack on Maritime Trade* (Basingstoke: Macmillan).
- Tracy, Nicholas (1998) 'Canada's Naval Strategy: The Record and the Prospects', in Ann L.Griffiths and Peter T.Haydon (eds) (1995), pp. 229-42.
- Tritten, James J. (1994) 'Naval Perspectives for Military Doctrine Developments', *Naval Doctrine Command*, Norfolk, VA, Sept.
- Tritten, James J. (1995a) 'Development Issues for Multinational Navy Doctrine', in Haydon and Griffiths (1995), pp. 147-84.
- Tritten, James J. (1995b) *A Doctrine Reader: The Navies of United States, Great Britain, France, Italy and Spain* (Newport, RI: Naval War College).
- Tritten, James J. (1996) 'Navy Combat Leadership for Tomorrow: When Will We Get Such Men and Women?', *Naval Doctrine Command*, 1-100-001 Norfolk VA.
- Tritten, James J. and Barnett, R.W. (1986) 'Are Naval Operations Unique?', *Naval Forces*, vol. 7, Nov.
- Tritten, James J. and Barnett, R.W. (1989) 'Is Naval Warfare Unique?', *Journal of Strategic Studies*, Dec.
- Tsamenyi, Martin (2001) 'Analysis of Contemporary and Emerging Navigational Issues in the Law of the Sea', University of Wollongong Working Paper no. 8, NSW, Nov.
- Tunander, Ola (2003) *The Secret War against Sweden: US and UK Submarine Deception and Political Control in the 1980s* (London: Frank Cass).
- Tunstall, Brian (1990) *Naval Warfare in the Age of Sail: The Evolution of Fighting Tactics, 1650-1815*, ed. Nicholas Tracy (London: Conway). First published 1936.
- Turner, Adm. Stansfield (1974) 'Missions of the US Navy', *Naval War College Review*, Mar.-Apr.
- Turner, Adm. Stansfield (1977) 'The Naval Balance: Not Just a Numbers Game', *Foreign Affairs*, Jan.
- Tzalel, Moshe (2000) *From Ice Breaker to Missile Boat: The Evolution of Israel's Naval Strategy* (Westport, CT: Greenwood Press).

- Ullman, Harlan K. (1991) *In Harm's Way: American Seapower and the 21st Century* (Silver Spring, MD: Bartleby Press).
- Van Creveld, Martin (1977) *Supplying War: Logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press).
- Van Dyke, Jon M., Durwood Zalke and Grant Hewison (eds) (1993) *Freedom for the Seas in the 21st Century: Ocean Governance and Environmental Harmony* (Washington, DC: Island Press).
- Vidigal, Armando (1985) *Evolução do Pensamento Naval Brasileiro* (Rio de Janeiro: Biblioteca do Exército).
- Ward, Iain (1999) *Mariners: The Hong Kong Marine Police 1948–97* (Wivenhoe, Exeter: IEW Publications).
- Warner, Oliver (1961) *The Glorious First of June* (London: Batsford).
- Waters, Lt-Cdr D.W. (1957) *A Study of the Philosophy and Conduct of Maritime War, 1815–1945* (London: Naval Historical Section, Admiralty).
- Wathen, J. (2001) 'Humanitarian Operations: The Dilemma of Intervention', Strategic and Combat Studies Institute Occasional Paper no. 42, Camberley, July.
- Weeks, Stanley B. (1994) 'US Naval Forward Presence in the Cold War: Perceptions of Former Soviet Elites', Science Applications International Research Memorandum, Washington, DC.
- Weir, Gary E. (2001) *An Ocean in Common* (College Station, TX: Texas A&M University Press).
- West, Capt. A.J.W. (1993) 'The Operational Level of Command in the Royal Navy', Paper, Camberley, Higher Command and Staff Course, Feb. 1993.
- Westcott, A. (ed.) (1919) *Mahan on Naval Warfare* (Boston, MA: Little, Brown).
- Wilson, Andrew R. (2001) 'Chinese Seapower in the Twenty-first Century: Aspirations and Limitations', in Till (2001), pp. 144–57.
- Wilson, C. (1957) *Profit and Power: A Study of England and the Dutch Wars* (London: Longmans).
- Wilson, David (2001) *Maritime War in the 21st Century: The Medium and Small Navy Perspective* (Canberra: RAN Sea Power Centre).
- Wilson, G.C. (1998) 'Wartime Rules of Engagement—A Postwar History of the British Experience II', *Naval Review*, April.
- Wong, J.Y. (1998) *Deadly Dreams: Opium, Imperialism and the Arrow War (1856–1860) in China* (Cambridge: Cambridge University Press).
- Woodman, Richard (1998) *The Victory of Seapower: Winning the Napoleonic War, 1806–1814* (London: Chatham).
- Woodward, David (1965) *The Russians at Sea* (London: Kimber).
- Woodward, Adm. Sandy (1992) *One Hundred Days: The Memoirs of the Falklands Battle Group Commander* (London: HarperCollins).
- Wright, A. (1998) *Australian Carrier Decisions: The Acquisition of HMA Ships Allatton, Sydney and Melbourne* (Canberra: Maritime Studies Programme).
- Yerxa, Donald A. (1991) *Admirals and Empire: The United States Navy and the Caribbean, 1898–1945* (Columbia, SC: University of South Carolina Press).
- You, J.I. (1998) 'The Chinese Navy and National Interest', in McCaffrie and Hinge (1998), pp. 15–35.
- Young, Oran R. (1968) *The Politics of Force: Bargaining During International Crises* (Princeton, NJ: Princeton University Press).
- Zelikow, Philip D. (1984) 'Force Without War, 1975–1982', *Journal of Strategic Studies*, March.
- Zimmerman, T. (1987) 'The American Bombing of Libya: A Screen for Coercive Diplomacy?', *Survival*, May–June.

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